Exploring (anti-) counterfeiting management: Conceptual foundations and empirical examination

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Vorwort

Sowohl in Sachgüter- als auch in Dienstleistungsmärkten sind Innovationen heute für die meisten Unternehmen eine Überlebensbedingung. Erreichte Marktpositionen können nur mittels ständiger Produkt- und Leistungsverbesserung gehalten werden. Der Innovationswettbewerb gilt als die dominante Wettbewerbsart für Unternehmen in Industrieländern. Ausdruck des Innovationswettbewerbs sind immer kürzer werdende Produktlebenszyklen am Markt, wodurch Unternehmen gezwungen sind, eine wachsende Zahl innovativer Produkte in immer kürzeren Zeitabständen auf den Markt zu bringen.

In den meisten Industrie- und Schwellenländern herrscht dabei die durch internationale Abkommen, wie beispielsweise TRIPS, getroffene Übereinkunft vor, Anreize für Innovatoren zu setzen und Wissenserzeuger durch (gewerbliche) Schutzrechte zu belohnen. Zwar werden innovierende Unternehmen mit Schutzrechten, das heißt mit zeitlich begrenzten Monopolen, „belohnt", jedoch tragen die Schutzrechtsinhaber weiterhin besondere Risiken: So gehen Innovatoren in der Regel Risiken durch höhere Aufwendungen für frühere Fehler und Rückschläge ein und übernehmen ferner das Verwertungsrisiko durch die erstmalige Anwendung der geschützten Leistung am Markt. Den Innovatoren stehen Unternehmen gegenüber, die als frühe oder späte Folger (Imitatoren) bei geringerem Risiko mit einer lizenzierten oder legal imitierten Lösung in den Markt eintreten. Der Wettlauf zwischen Innovatoren und Imitatoren ist Kernelement des (legalen) Innovationswettbewerbs.

Dem legalen Wettbewerb stehen jedoch seit jeher die gegen bestehende Gesetze verstoßenden und demzufolge illegal agierenden Wettbewerber – die sogenannten Marken- und Produktpiraten – entgegen. Aufgrund der zunehmenden Professionalisierung der Fälscher ist auf Seiten der legalen Wettbewerber die Bekämpfung von Marken- und Produktpiraterie zu einer strategischen Notwendigkeit für das Management im Innovationswettbewerb geworden. Für eine systematische Auseinandersetzung mit diesem Phänomen sind aus einer managementorientierten Sichtweise organisatorische Fragen zu klären, Strategien auszuwählen und entsprechende Instrumente einzusetzen. Voraussetzung hierfür ist die Informationsgewinnung über Vorgehensweisen und Typen von Fälschern zur Einleitung von zielgerichteten Maßnahmen. Gerade beim erstmaligen Auftreten von Fälschungsfällen oder der Planung eines Markteintritts stehen Unternehmen jedoch häufig vor dem Problem, dass weder Bekämpfungserfahrung noch methodisches Wissen vorhanden sind.

An dieser Problemstellung setzt die vorliegende Dissertation an. Ziel ist es, das vorhandene methodische Bekämpfungswissen aufzubereiten und anhand von Experteninterviews, Fallstudien und einer fragebogenbasierten Erhebung einen umfassenden konzeptionellen und empirischen Beitrag zur Auseinandersetzung mit den Schutz vor und der Generierung von Marken- und Produktpiraterie zu erbringen.

Danksagung

Die vorliegende Dissertation ist während meiner Tätigkeit als wissenschaftlicher Mitarbeiter am Lehrstuhl für Technologie- und Innovationsmanagement am Fachbereich Wirtschaftswissenschaften der Philipps-Universität Marburg entstanden. Auf dem langen Weg zur Erstellung dieser Arbeit haben mich die unterschiedlichsten Menschen begleitet, welchen ich an dieser Stelle danken möchte.

Mein besonderer Dank gilt meinem akademischen Lehrer und Doktorvater Prof. Dr. Michael Stephan, Inhaber des Lehrstuhls für Technologie- und Innovationsmanagement. Ihm danke ich für eine spannende und lehrreiche Promotionszeit in Marburg, konstruktive Anregungen und Diskussionen, welche zu wichtigen Impulsen in meinem eigenen Forschungsprozess geführt haben, sowie für die Einräumung großer Freiheiten zur persönlichen Weiterentwicklung. Für die dabei gemachten Erfahrungen, welche ich in der akademischen Lehre sowie bei wissenschaftlichen und praxisbezogenen Projekten sammeln konnte, bin ich sehr dankbar. Herrn Prof. Dr. Bernd Schiemenz, Emeritus des Lehrstuhls für Allgemeine Betriebswirtschaftslehre und Industriebetriebslehre der Philipps-Universität Marburg, danke ich für seine Bereitschaft zur Übernahme der Rolle des Zweitgutachters, sein Interesse an meiner Forschung und seine unkomplizierte Unterstützung. Ich bedanke mich auch bei Prof. Dr. Rian Beise-Zee vom Asian Institute of Technology in Bangkok für seine Einladung zu einem Forschungsaufenthalt, der für mich sowohl fachlich als auch persönlich eine großartige Erfahrung darstellt. Einen Dank gilt es auch allen teilnehmenden Experten und Herrn Jeff Hardy, Koordinator der BASCAP Initiative der internationalen Handelskammer, auszusprechen. Ohne sie wäre eine derart umfassende Aufarbeitung der Thematik nur schwer möglich gewesen. Darüber hinaus gilt mein Dank allen Kolleginnen und Kollegen vom Lehrstuhl für Technologie- und Innovationsmanagement und vom Lehrstuhl für Wirtschaftspolitik. Gemeinsam mit diesen durfte ich zahlreiche Diskussionen, eine stets unkomplizierte und angenehme Zusammenarbeit sowie gelegentliche gemeinsame Abendveranstaltungen genießen.

Ich danke allen Freunden für viele bereichernde Gespräche und die gemeinsame Zeit. Mein besonderer Dank richtet sich an meine Eltern, Frau Barbara und Herrn Adelbert Schneider, welche mir neben Ihrer aufopferungsvollen Unterstützung vor allem bereits in jungen Jahren den Wert von Bildung und Wissen vermittelt haben. Auch danke ich Frau Petra und Herrn Dr. Jürgen Vaupel für ihren Beistand. Abschließend bedanke ich mich herzlichst bei meiner Partnerin, Frau Judith Vaupel, für die Bereitschaft und die Gabe mir neue Energie und Motivation zu schenken, sich als kritische Gesprächspartnerin mit unterschiedlichsten Themen auseinanderzusetzen und den notwendigen Rückhalt zu gewähren.

Martin J. Schneider

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Hinweise zur Leserführung in der kumulativen Dissertation

Die vorliegende Dissertationsschrift wurde gemäß § 8 der Promotionsordnung des Fachbereichs Wirtschaftswissenschaften der Philipps-Universität Marburg vom 8. Juni 2009 als kumulative Leistung erstellt. Sie besteht aus insgesamt fünf Teilelementen.

Die formalen Inhalte I und II am Anfang und am Ende der Dissertationsschrift beinhalten die Zusammenfassung des Promotionsprojektes sowie Angaben zur Person und die eidesstattliche Erklärung. In den Teilen 1 bis 3 erfolgt die inhaltliche Aufarbeitung der Untersuchungsgegenstände auf zwei Ebenen: Teil 1 widmet sich der konzeptionellen Betrachtung des Phänomens Marken- und Produktpiraterie auf Länderebene und aus einem gesellschaftlichen Blickwinkel. Die Analyse der Unternehmensebene aus konzeptioneller und empirischer Sicht erfolgt in den sich anschließenden Teilen 2 und 3. Während der zweite Teil den Schutz und die Bekämpfung auf Seiten der Rechteinhaber fokussiert, erfolgt im dritten Teil ein Perspektivenwechsel hin zu einer Untersuchung der Angebotsseite in Form von Fälschern. Die Bedeutung und die Verwendung der verwendeten Fachtermini können nach Untersuchungsebene variieren und sind deshalb im jeweiligen Kontext des Beitrages zu verstehen. Aus Platzgründen und zur Verbesserung der Lesbarkeit wird die maskuline Schreibweise stellvertretend für alle Geschlechtsformen verwendet.

Bei den in der kumulativen Dissertationsschrift enthaltenen Leistungen handelt es sich um bereits publizierte oder eingereichte Beiträge. Deshalb verbleiben diese in der Originalformatierung. Auf die nachträgliche Einfügung einer durchgehenden Seitennummerierung über die gesamte Arbeit wird verzichtet, da dadurch die Beiträge formal verändert würden und somit nicht mehr dem Originalzustand der publizierten oder eingereichten Version entsprächen. Aus diesem Grund wird zur Orientierung auf die vorangegangene Inhaltsübersicht und die sich anschließende Zusammenfassung verwiesen. Bei den Beiträgen 1, 2, 3, 4 und 7 handelt es sich um Buchbeiträge zu einem Sammelwerk bei welchem gemäß der Autorenrichtlinien Endnoten mit Kurzzitierung zu verwenden waren und die vollumfänglichen bibliographischen Angaben in einem Literaturverzeichnis am Ende des Sammelwerkes zu finden sind. Deshalb wurde das jeweilige Literaturverzeichnis nach dem eigentlichen publizierten Inhalt zusätzlich zur Vollständigkeit eingefügt.

Dieser kleinen Einschränkung steht jedoch ein großer Vorteil in Bezug auf das Forschungsvorhaben gegenüber: Durch die Wahl der kumulativen Dissertation ergibt sich die Chance, dass in den insgesamt neun Beiträgen jeweils in sich geschlossene konzeptionelle und empirische Untersuchungsdesigns bearbeitet, analysiert und bewertet werden können. Somit können einzelne Teilelemente der Forschungsfragen spezifisch aufgearbeitet und zu Handlungsempfehlungen weiterentwickelt werden. Darüber hinaus bietet diese Vorgehensweise den Vorteil, dass eine lösungsorientierte Methodenauswahl sichergestellt wird, so dass ein umfassender Forschungsbeitrag zur Marken- und Produktpiraterie generiert werden konnte.

Hinweise zur Publikationsform

Die vorliegende kumulative Dissertationsschrift besteht aus insgesamt neun Beiträgen. Diese wurden teilweise bereits veröffentlicht oder befinden sich zum Datum der Erstellung dieser Archivversion noch in einem Begutachtungsverfahren. Die bereits veröffentlichten und urheberrechtlich geschützten Beiträge sind nicht Teil dieser Publikationsform. Für diese Beiträge enthält die nachfolgende Tabelle eine Übersicht über die Nummer des Beitrages in der kumulativen Dissertation, den Titel, die beteiligten Autoren und den Publikationsnachweis. Die Inhalte dieser Beiträge können der Zusammenfassung der kumulativen Dissertation entnommen werden.

Nr.	Titel	Autoren	Publikationsnachweis
Teil 1			
1	Dimensionen der Betrachtung von Produkt- und Markenpiraterie	Schneider, M.J., Stephan, M.	Stephan, M., Schneider, M.J., (Hrsg.): Produkt- und Markenpiraterie – Fälscherstrategien, Schutzinstrumente, Bekämpfungsmanagement, Symposion Publishing, Düsseldorf, S. 19-41.
2	Piraterie, Imitation, Fälschung – Ansätze zur Definition	Schneider, M.J., Stephan, M.	Stephan, M., Schneider, M.J., (Hrsg.): Produkt- und Markenpiraterie – Fälscherstrategien, Schutzinstrumente, Bekämpfungsmanagement, Symposion Publishing, Düsseldorf, S. 41-89.
Teil 2			
3	Pirateriebekämpfungsmanagement – Strategie und Organisation	Schneider, M.J., Stephan, M.	Stephan, M., Schneider, M.J., (Hrsg.): Produkt- und Markenpiraterie – Fälscherstrategien, Schutzinstrumente, Bekämpfungsmanagement, Symposion Publishing, Düsseldorf, S. 199-278.
4	Schutzinstrumente zur Pirateriebekämpfung	Schneider, M.J., Stephan, M.	Stephan, M., Schneider, M.J., (Hrsg.): Produkt- und Markenpiraterie – Fälscherstrategien, Schutzinstrumente, Bekämpfungsmanagement, Symposion Publishing, Düsseldorf, S. 279-360.
5	Ansatzpunkte des Competence-Based View zur Bekämpfung von (Produkt-)Piraterie	Schneider, M.J.	Stephan, M., Kerber, W., Kessler, T., Lingenfelder, M., (Hrsg.): 25 Jahre ressourcen- und kompetenzbasierte Forschung – Der kompetenzbasierte Ansatz auf dem Weg zum Schlüsselparadigma in der Managementforschung, Gabler, Wiesbaden, S. 139-163.
Teil 3			
7	Black-Box Fälscher? Praxis des Piratenmanagements	Stephan, M., Schneider, M.J.	Stephan, M., Schneider, M.J., (Hrsg.): Produkt- und Markenpiraterie – Fälscherstrategien, Schutzinstrumente, Bekämpfungsmanagement, Symposion Publishing, Düsseldorf, S. 121-197.

Darüber hinaus enthält der Teil „Formale Inhalte II“ persönliche Daten (Lebenslauf inklusive Promotionsprogramm, Publikationsverzeichnis und Lehrportfolio). Sie sind deshalb nicht Bestandteil dieser Veröffentlichung.

Formale Inhalte I:

- Zusammenfassung der kumulativen Dissertation

Zusammenfassung der kumulativen Dissertation: Exploring (anti-) counterfeiting management: Conceptual foundations and empirical examination[1]

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Schlagworte: Markenpiraterie, Produktpiraterie, Schutzmanagement, Fälschungsmanagement, ressourcen- und kompetenzbasierter Ansatz, strategische Gruppen, Konfigurationsansatz, Mixed-Methods Design.

JEL Klassifikation: M1, M16, O34

Die vorliegende Zusammenfassung der kumulativen Dissertationsleistung wurde nach § 8 Absatz 3 der Promotionsordnung des Fachbereichs Wirtschaftswissenschaften der Philipps - Universität Marburg vom 8. Juni 2009 erstellt.

Intention ist die Vorstellung der Zielsetzung sowie die Darstellung der einzelnen Teilleistungen zur inhaltlichen Zusammenführung der kumulativen Dissertationsleistung gemäß § 1 der Ausführungsbestimmungen nach § 8 Absatz 5 der Promotionsordnung des Fachbereichs Wirtschaftswissenschaften der Philipps - Universität Marburg vom 8. Juni 2009.

Das Promotionsprojekt wurde von Prof. Dr. Michael Stephan, Inhaber des Lehrstuhls für Technologie- und Innovationsmanagement, als Erstgutachter und von Prof. Dr. Bernd Schiemenz, Emeritus des Lehrstuhls für Allgemeine Betriebswirtschaftslehre und Industriebetriebslehre, als Zweitgutachter betreut. Die Dissertation wurde zwischen Mai 2008 und Mai 2012 am Lehrstuhl für Technologie- und Innovationsmanagement angefertigt.

[1] Deutscher Titel: „Exploration des Schutz- und Fälschungsmanagements: Konzeptionelle Grundlagen und empirische Bewertung“

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Abkürzungsverzeichnis

ACM	Anti-Counterfeiting Management (Bekämpfungs- oder Schutzmanagement)
CBV	Competence-Based View (Kompetenzbasierter Ansatz)
CM	Counterfeiting Management (Fälschungsmanagement)
KMU	Kleine und mittelständische Unternehmen
MNU	Multinationale Unternehmen
RBV	Resource-Based View (Ressourcenbasierter Ansatz)
RQ	Research question (Forschungsfrage)
WHV	Welthandelsvolumen

1. Einleitung

1.1 Empirische Relevanz der Thematik und Zielsetzung

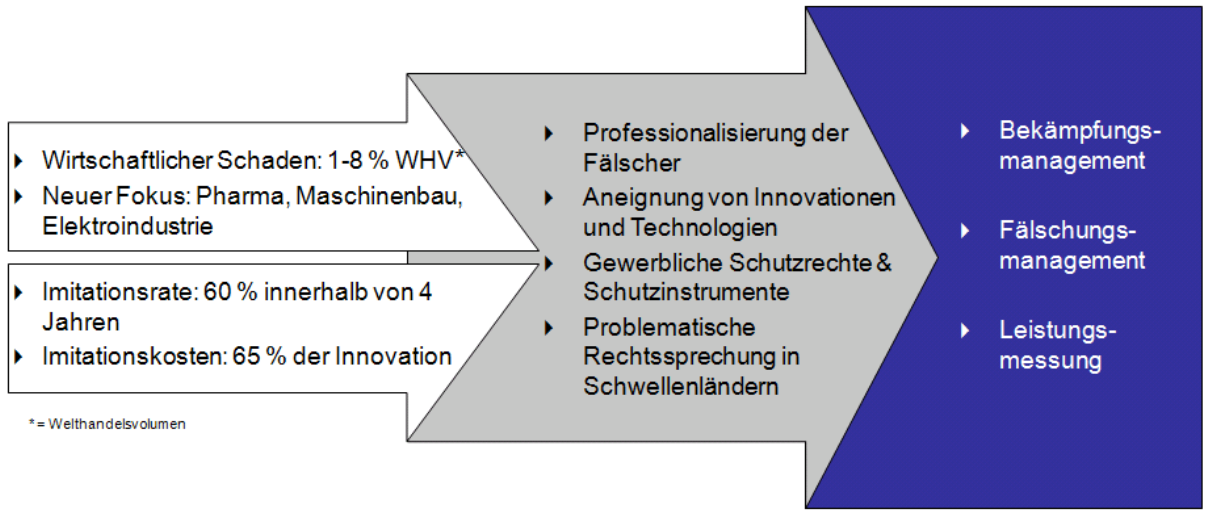
Aus einer managementorientierten Sichtweise verfügen Unternehmen mit Innovation und Imitation über zwei grundlegende strategische Optionen für den Markteintritt (Schewe 2005; Teece 1986). Beide Optionen können zu legalen Wettbewerbsvorteilen führen, so dass das strategische Verhalten der beteiligten Akteure den Erfolg bestimmen sollte (Baldwin/Childs 1969; Boulding/Christen 2003; Connor 1988; Ethiraj/Zhu 2008; Lee et al. 2000; Markides/Geroski 2005; Schnaars 1994). Imitationen stellen in diesem Kontext gemäß Schnaars 1994 einen Sonderfall dar: *"Imitation runs the gamut from surreptitious and illegal duplicates of popular products to truly innovative new products that are merely inspired by a pioneer brand. […] Much of the negative image attached to imitative products results from the illicit actions of counterfeiters"* (Schnaars 1994, S. 5). Folglich kann Imitation in die legale Nachahmung im Rahmen des Innovationswettbewerbs und die illegale, kommerziell orientierte Fälschung von physischen Produkten, intangiblen Vermögenswerten (z.B. Marken) und Dienstleistungen unterteilt werden. Gerade der zweite Fall der illegalen Imitation in Form von Counterfeiting als *"[a]ny unauthorized manufacturing of goods whose special characteristics are protected as intellectual property (trademarks, patents and copyrights) […]"* (Cordell et al. 1996, S. 41) stellt grundlegend eine Schutzrechtsverletzung dar, welche den legalen Innovationswettbewerb durch illegale Aktivitäten zerstört.[2]

Obwohl das Fälschungsphänomen ein seit langem existentes Problem darstellt (Chaudhry/Zimmerman 2009; Johns 2009; Phillips 2007), hat sich das Geschäftsmodell der Fälscher erst in der letzten Dekade deutlich professionalisiert, wodurch der Handel mit gefälschten Produkten mittlerweile einen geschätzten Anteil zwischen einem und acht Prozent am Welthandelsvolumen (WHV) einnimmt (Chaudhry 2006; Frontier 2011; ICC 2007; Staake/Fleisch 2008; OECD 2008, 2009; Paradise 1999). Während traditionell vor allem die Konsumgüterindustrie von Fälschungen betroffen war, können sich mittlerweile immer weniger Branchen dem Problem entziehen; es rücken auch technologieintensivere Produkte aus dem Maschinenbau, der Elektro-, Automobil-(zulieferer-) und Pharmaindustrie in den Fokus von Fälschern (Wildemann et al. 2007). Der fälschungsinduzierte Umsatzverlust im Industriegüterbereich steigt dabei weiter an und beträgt beispielsweise (bspw.) unter den Mitgliedsunternehmen des Verbands Deutscher Maschinen- und Anlagenbau e.V. (VDMA) nach jüngsten Schätzungen vier Prozent (VDMA 2010). Auch wenn sich die Prognosen zum Ausmaß der Schäden je nach Quelle zum Teil erheblich unterscheiden, wird deutlich, dass Fälschungen einen nicht zu unterschätzenden und wachsenden Schadensfaktor darstellen. Insbesondere

[2] Vgl. Beitrag 2.

Innovatoren werden nicht nur von unternehmensinternen Problemen wie hohen Abbruchquoten (Buggie 1982; Cooper 1981; Lilien 1986) und von hohen Imitationsraten durch legale Imitatoren extern gefährdet (Mansfield et al. 1981), sondern zusätzlich auch durch illegale Fälscher angegriffen. Diverse Publikationen haben darüber hinaus aufgezeigt, dass funktionsfähige Schutzrechte alleine, vor allem in Schwellenländern, nicht (mehr) zum Schutz vor Fälschern ausreichen (Burr et al. 2007; Gassmann/Bader 2007; Sattler 2003; Wildemann et al. 2007). Dadurch steigen die Kosten von Schutzrechtsinhabern weiter an, da neue Aufwendungen durch die Suche nach und die Anwendung von zusätzlichen Schutzinstrumenten entstehen und somit die Leistungsmessung zur Erzielung von Lerneffekten relevant wird. Auf Basis dieser Entwicklung können Fälschungen als dritte strategische Alternative neben Innovation und legaler Imitation verstanden werden. Für das strategische Management von Originalherstellern erwachsen dadurch neue Anforderungen (Abbildung 1) an die Organisation, die Strategieformulierung und den Instrumenteneinsatz („Schutzmanagement“, Anti-Counterfeiting Management, ACM) sowie die Notwendigkeit, die Vorgehensweisen von Fälschern eingehend zu untersuchen („Fälschungsmanagement“, Counterfeiting Management, CM).

Abbildung 1: Relevanz der Fälschungsproblematik



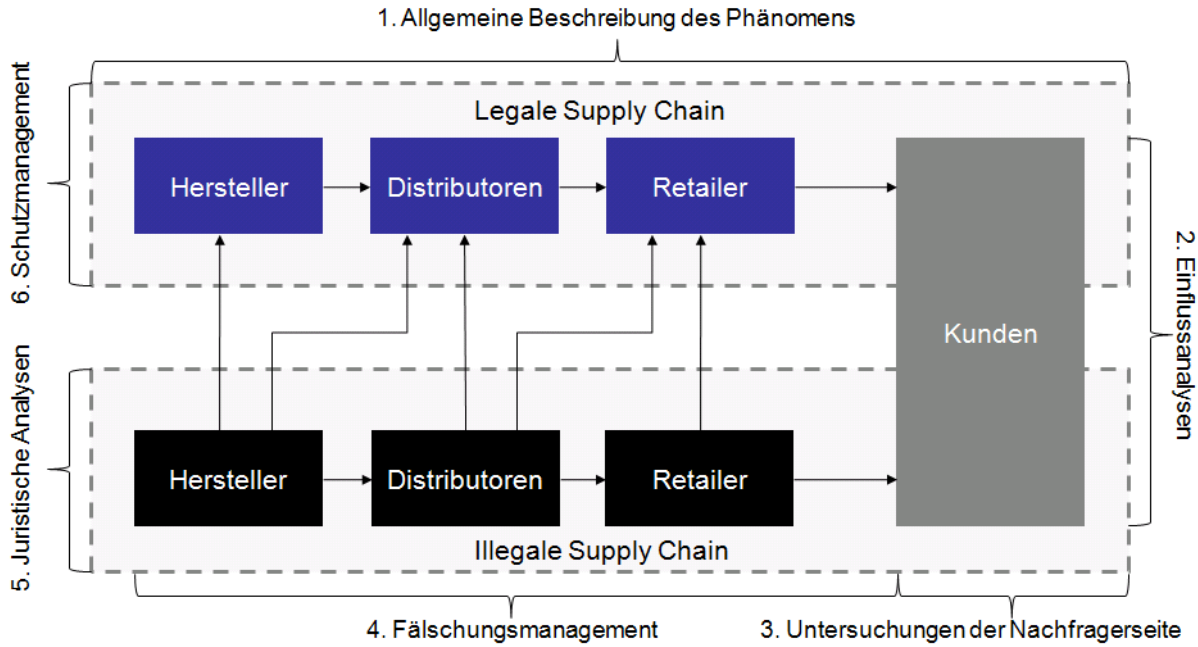
1.2 Stand der Forschung und Forschungsfragen

Durch die hohe Relevanz der Thematik für die unternehmerische Praxis ist sowohl für legale Wettbewerber als auch für die Wissenschaft die Notwendigkeit entstanden, verstärkt Forschung zur Marken- und Produktpiraterie und eine systematische Suche nach Lösungsansätzen zu betreiben. Grundlegend identifizieren Staake et al. 2009 sechs relevante Forschungsrichtungen, welche durch eigene Literaturrecherchen ergänzt wurden.[3] Die vorliegende Arbeit fokussiert insbesondere auf die Felder (1), (4), (5) und (6) in Abbildung 2 aus einer managementorientierten Sichtweise. Einfluss- (2) und Kundenanalysen (3) werden in der vorliegen-

[3] Vgl. die Beiträge 3, 4 und 7.

den kumulativen Dissertation nicht behandelt. Insgesamt ist die verfügbare Literaturbasis als noch immer stark limitiert und wenig systematisiert zu beschreiben. Dies liegt darin begründet, dass die Forschung im Bereich der illegalen Nachahmungen zu den relativ jungen Forschungsgebieten zählt und sich noch kein eigenständiger Forschungszweig etabliert hat. Vielmehr handelt es sich um ein stark interdisziplinäres Gebiet, welches zwischen Rechts-, Ingenieurs-, Sozial- und Wirtschaftswissenschaften angesiedelt ist. Produkt- und Markenpiraterie ist somit nach Creswell 2009 als exploratives Forschungsfeld zu bezeichnen.

Abbildung 2: Forschungsrichtungen im Bereich der Marken- und Produktpiraterie



Quelle: Eigene Darstellung in Anlehnung an und Erweiterung zu Staake et al. 2009, S. 324.

In den Literaturanalysen zu den genannten Forschungsrichtungen werden mehrere Forschungslücken identifiziert: (1) Bei der allgemeinen Beschreibung des Phänomens wurden bisher überwiegend einzelne Dimensionen hervorgehoben. Vor allem die juristische Dimension auf Länderebene wurde im Verhältnis zwischen Industrie- und Schwellenländern diskutiert. Es fehlt hier an einer zusammenfassenden Beschreibung des Phänomens als Rahmen für die Tätigkeit von Unternehmen. (4) Untersuchungen des Fälschungsmanagements sind sehr selten. Es fehlen insbesondere Wertschöpfungsbetrachtungen, Analysen von Fälschergruppen sowie grundlegende Strategie- und Instrumentensammlungen. Gerade in diesem Bereich kann ein sehr großes Forschungsdefizit ausgemacht werden, da die Tätigkeit der Fälscher mit einigen wenigen Ausnahmen nicht als Managementaufgabe und größtenteils ohne theoretische Grundlage analysiert werden. (5) Juristische Beiträge konzentrieren sich vor allem auf Ausführungen zu verschiedenen Schutzrechten sowie auf deren Durchsetzung. Aus einer managementorientierten Sichtweise fehlt die Verbindung zu ergänzenden Schutzinstrumenten. Darüber hinaus besteht bisher keine über den Grundkonsens des TRIPS-Abkommens hinausgehende klare Abgrenzung der einzelnen Schutzrechtsverletzungen. (6) Die

Forschung zu Schutzstrategien und -maßnahmen hat sich als ein wichtiges Element herausgestellt. Bisher überwiegen in der empirischen Erforschung quantitative Studien, welche allein die Häufigkeiten des Vorkommens von Strategien und Instrumenten untersuchen, und explorative fallbasierte Analysen zur Durchführung von Strategien und Maßnahmen. Aus konzeptioneller Sicht finden sich eine geringe Anzahl konzeptorientierter (z.B. Schuh et al. 2009) und eine noch deutlich geringe Zahl an theoriebasierten (z.B. Anand/Galetovic 2004) Ansätzen. Den meisten Arbeiten fehlt es aus theoretischer Sicht an einer expliziten theoretischen Fundierung in der Managementtheorie zur Generierung einer ganzheitlichen theoriegeleiteten Forschungsmethodik sowie an einer ergänzenden empirischen Aufarbeitung der Thematik, welche die Fähigkeiten eines Unternehmens beachtet. Darüber hinaus finden sich keine Studien, welche eine Leistungsmessung in die Untersuchung integrieren. Das kumulative Promotionsprojekt verfolgt drei zentrale Fragestellungen (Abbildung 3), um Schutz- und Fälschungsmanagement in 14 Teilfragestellungen eingehend zu untersuchen.

Abbildung 3: Forschungsfragen (research questions, RQ) der Untersuchung

Aus methodischer Sicht dominieren Mono- oder Multiple-Method Ansätze[4], welche den Fokus überwiegend auf ein oder mehrere qualitative(s) Instrument(e) legen. Quantitativ empirische Mono-Method Beiträge finden sich fast ausnahmslos im Bereich der Nachfrageranalysen und bei Studien, welche die Häufigkeit der Anwendung von Schutzinstrumenten untersuchen. Quantitative Multiple-Method Ansätze sind nicht vorhanden. Die größtenteils auf unsystematischen Beobachtungen und singulären Erfahrungswerten basierenden Handlungsempfehlungen richten sich in der Mehrheit an Praktiker. Angesichts der jungen Forschungs-

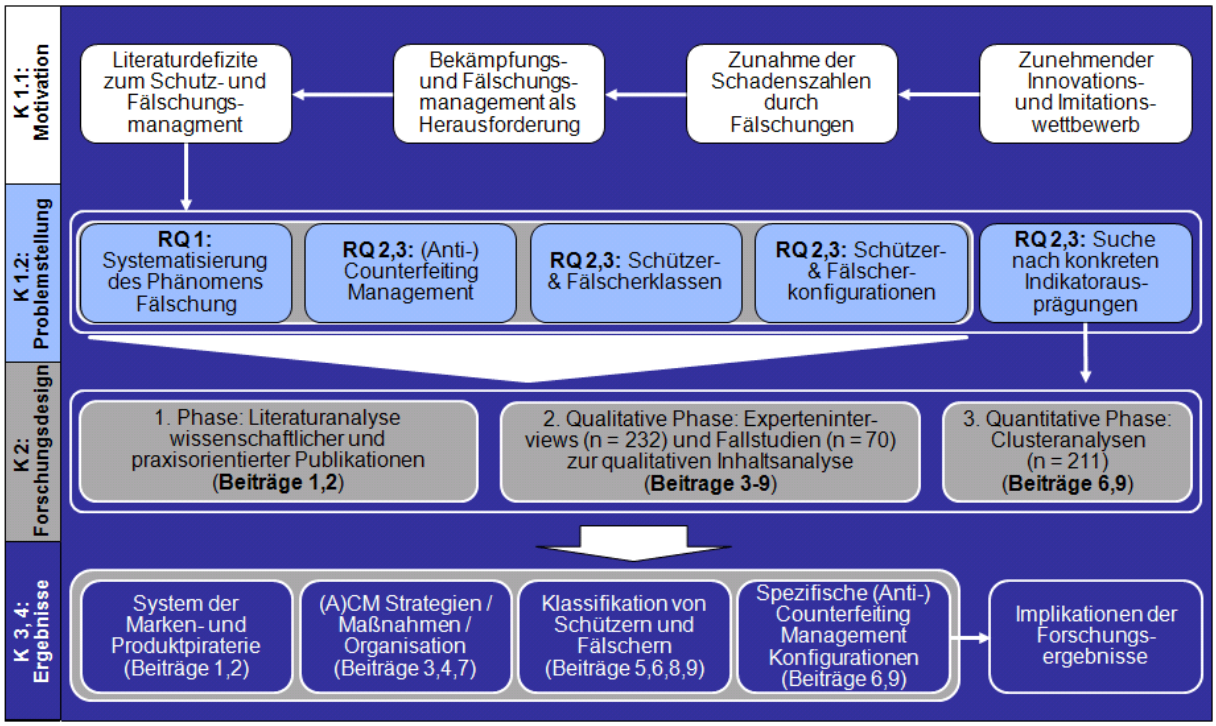
[4] Monomethod Ansätze fokussieren ein Instrument in einer qualitativen oder quantitativen Untersuchung. Multiple-Method Ansätze kombinieren mehrere Instrumente aus einer Verfahrensgruppe (Creswell 2009; Creswell/Plano Clark 2011).

disziplin, der nicht existenten Datengrundlage und den Schwierigkeiten der Datenerhebung, sowohl bei Schützern (bspw. begründet durch Geheimhaltungswünsche und mangelndes Wissen) als auch bei Fälschern (aufgrund der mangelhaften Kooperation und der Gefährdung bei einer direkten Datenerhebung), ist bei der Methodenwahl der explorative Charakter des Forschungsfeldes zu beachten. Hieraus ergibt sich die Notwendigkeit von Mixed-Methods[5] Ansätzen als Forschungsmethodik (Creswell 2009; Creswell/Plano Clark 2011).

1.3 Gang der Untersuchung und Aufbau der kumulativen Dissertation

In Abbildung 4 ist der Gang der Untersuchung gegliedert in Motivation, Problemstellung, Forschungsprozess und Ergebnisse dargestellt. Die einzelnen Forschungsfragen werden in einem dreistufigen explorativen Forschungsprozess aus Literaturanalyse, qualitativer und quantitativer Phase untersucht. Das Forschungsdesign und die verwendeten Verfahren werden in Kapitel 2 detaillierter vorgestellt. Die Zusammenfassungen der einzelnen Beiträge sind in Kapitel 3 zu finden. Anschließend erfolgen die Ergebniszusammenführung, die Bewertung und die Vorstellung der Implikationen in Kapitel 4.

Abbildung 4: Gang der Untersuchung



Die Forschungsfragen wurden in neun einzelnen Beiträgen untersucht. Der Forschungsfrage 1 („Marken- und Produktpiraterie“) wurde in zwei Beiträgen nachgegangen. Beitrag 1 stellt die relevanten Dimensionen der Betrachtung von Fälschungen dar. In Beitrag 2 erfolgt eine umfassende Auseinandersetzung mit den definitorischen Grundlagen, den Gründen für die

[5] Mixed-Methods Ansätze kombinieren qualitative und quantitative Techniken in der empirischen Forschung mit ein- oder mehrmaligen Messzeitpunkten (Creswell 2009; Creswell/Plano Clark 2011).

Zunahme der Fälschungen sowie den daraus entstehenden Schäden zur Abgrenzung, Systematisierung und Bewertung der Thematik. Die Forschungsfragen 2 („Schutzmanagement", ACM) und 3 („Fälschungsmanagement", CM) werden sowohl mit konzeptionellen als auch qualitativ und quantitativ empirischen Beiträgen bearbeitet. Zur Beantwortung der Forschungsfrage 2 enthält die kumulative Dissertation vier Beiträge. In Beitrag 3 werden Grundlagen und Inhalte eines unternehmerischen Schutzsystems erarbeitet. Beitrag 4 komplettiert dieses Thema durch eine umfangreiche Analyse relevanter Schutzinstrumente. Die Erklärungsinhalte des ressourcen- bzw. kompetenzbasierten Ansatzes zur Ableitung einer prozessorientierten Sichtweise auf ACM beinhaltet Beitrag 5. Mittels einer qualitativen Inhaltsanalyse wird das Wissen aus 86 Experteninterviews analysiert und ein Konstrukt zur Ableitung der unternehmerischen Schutzkompetenz vorgestellt. In Beitrag 6 erfolgen die Verfeinerung des Modells und die finale Untersuchung von ACM auf Basis eines konfigurationsorientierten Mixed-Methods Ansatzes zur inhalts- sowie cluster- und varianzanalytischen Bestimmung von Schützerklassen und -konfigurationen.[6] Wichtige Elemente sind Kompetenzen, die verfolgten Strategien bzw. eingesetzten Instrumenten sowie die Evaluierung des Erfolgs auf Grundlage von Fragebogendaten. Zur Behandlung von Forschungsfrage 3 sind drei Beiträge erstellt worden. Beitrag 7 beschäftigt sich mit dem bisher stark vernachlässigten Bereich CM. In diesem wird zur Annäherung an die Thematik der aktuelle Stand der Forschung zu Fälschertypen, relevanten Strategien sowie taktischen Maßnahmen aufgearbeitet und mit Expertenwissen angereichert. In Beitrag 8 erfolgen eine managementorientierte Aufbereitung der Fälscherthematik und eine qualitative Inhaltsanalyse zur Identifikation von Strategien und Instrumenten. Darüber hinaus wird eine kompetenzbasierte Methodik zur Bewertung von Fälschern erarbeitet. Beitrag 9 schließt die Untersuchung der Fälscherseite analog zu Beitrag 6 ab.

2. Forschungsdesign

Das vorliegende Kapitel dient der Zusammenfassung der für diese Arbeit relevanten Theorien, Konzeptionen und Methoden. Hierfür werden zuerst die konzeptionellen Grundlagen in Kapitel 2.1 vorgestellt. In Kapitel 2.2 werden die qualitativen und quantitativen empirischen Teile des Forschungsdesigns behandelt.

2.1 Konzeptionelle und theoretische Grundlagen für die Untersuchung von Marken- und Produktpiraterie

Die kumulative Dissertation orientiert sich methodisch-konzeptionell am Ansatz der konfigurationsorientierten Management- und Organisationsforschung. Eine Konfiguration "*denotes any multidimensional constellation of conceptually distinct characteristics that commonly oc-*

[6] Vgl. Kapitel 2.

cur together" (Meyer et al. 1993, S. 1175) in Form von Strategien, Instrumenten und Prozessen (Ketchen et al. 1993; Miller 1996). Der Konfigurationsansatz stellt ein etabliertes Konzept der Organisations- und Strategieanalyse dar (Carper/Snizek 1980; Ketchen et al. 1997; McKelvey 1982; Rich 1992). Hierbei wird zwischen theoretisch deduktiv abgeleiteten Typologien und empirisch induktiv begründeten Taxonomien unterschieden.[7] Die Ursache-Wirkungsbeziehungen der Konfigurationen können durch deren Bezug zu einer oder mehreren Outputvariablen, wie beispielsweise Performance-Indikatoren, in empirischen Ansätzen identifiziert werden (Ketchen et al. 1997). In der empirischen Forschung zum strategischen Management finden sich vor allem Untersuchungen auf Ebene der Industrie, von strategischen Gruppen und von Unternehmen (Short et al. 2007; Short et al. 2003a, b)[8]. Die drei Blickwinkel reichen somit von der Industrie- bis zur Unternehmensebene mit strategischen Gruppen als intermediärer Analyseebene.

Im Kontext von Marken- und Produktpiraterie beziehen sich bestehende Untersuchungen auf Industrieebene vor allem auf die volkswirtschaftlichen Auswirkungen des Phänomens auf verschiedene Industriesektoren (Staake et al. 2009). Der vorliegende konfigurationsorientierte Ansatz nimmt dagegen eine systematische und ganzheitliche Sichtweise auf organisationale und strategische Muster von (A)CM als komplexe Untersuchungsobjekte ein. Der Fokus liegt auf der Verbindung von Strategien, Instrumenten sowie Kompetenzen von Rechteinhabern und Fälscher auf Gruppen- und Unternehmensebene. Die Industrieebene wird für die Prüfung der externen Validität der Konfigurationen verwendet.

Das Konzept der strategischen Gruppen dient zur Analyse und Charakterisierung von bezüglich ihrer Zielsetzungen, Ressourcenausstattungen und verfolgten Strategien ähnlichen Gruppen von Schützern bzw. Fälschern. Diese weisen innerhalb der jeweiligen Gruppe ein homogenes Verhalten insbesondere bei Wettbewerbsstrategien und Geschäftsmodellen auf (Cool/Schendel 1987, 1988; Porter 1979, 1980, 1985; Reger/Huff 1993; Thomas/Venkatraman 1988). Die Gruppenzugehörigkeit wird durch Mobilitätsbarrieren und den damit verbundenen Ein- und Austrittskosten der Unternehmen bestimmt (Caves/Porter 1979; Porter 1980). Diese Barrieren können bspw. durch die verfolgten Strategien, die Existenz von Industriestrukturen oder auch Unternehmenseigenschaften begründet sein (McGee/Thomas 1986). Dadurch können Unternehmen nicht ohne Weiteres die Gruppenzugehörigkeit wechseln, da mit spezifischen Investitionen in neue Fähigkeiten und Produkte ein hohes Risiko durch eine verringerte Profitabilität und durch die Unsicherheit zusätzlicher Erlöse verbunden sein kann (Mascarenhas/Aaker 1989). Die Beziehung zwischen den Gruppenstrukturen und

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[7] Ein bekanntes Beispiel für Typologien ist die Organisationstypologie von Mintzberg 1979. Im Bereich der Taxonomien haben vor allem die Strategietypen nach Galbraith/Schendel 1983 einen größeren Verbreitungsgrad erlangt.

[8] Vgl. die Beiträge 6 und 9.

dem Unternehmenserfolg wird hierbei in empirischen Untersuchungen als Basis zur Ableitung von Klassifikationen verwendet (Cool/Schendel 1987, 1988; Fiegenbaum et al. 1996; Fiegenbaum/Thomas 1990). Im Bereich der Marken- und Produktpiraterie existiert mittlerweile eine Taxonomie, welche Fälscher klassifiziert (Staake et al 2011). Dieser fehlen die Einbeziehung einer Performancegröße sowie von Elementen des CMs.

Da die Anwendung von Schutz- und Fälschungsstrategien und -instrumenten nicht für alle Unternehmen gleichermaßen möglich ist, wird die ressourcen- und kompetenzbasierte Sichtweise verwendet, um auf Unternehmensebene relevante Fähigkeiten in die Betrachtung zu integrieren (Barney/Arikan 2001; Crook et al. 2008; Newbert 2007). Unterschiede im Erfolg zwischen den Untersuchungsobjekten werden dabei aus einer statischen Sicht durch deren Ressourcen- und (Kern-) Kompetenzausstattung bestimmt (Amit/Shoemaker 1993; Barney 1991, 1995; Dierickx/Cool 1989; Grant 1991; Mahoney/Pandian 1992; Prahalad/Hamel 1990; Rumelt 1991; Wernerfelt 1984). Aus einer dynamischen Sicht ist es für die Erzielung eines Wettbewerbsvorteils erforderlich, dass Schützer und Fälscher in der Lage sind, bestehende Schutzressourcen und -kompetenzen zu rekonfigurieren oder freizusetzen. Darüber hinaus müssen neue Ressourcen und Kompetenzen errungen und integriert werden (Eisenhardt/Martin 2000; Grant 2008; Helfat et al. 2007; Henderson/Cockburn 1994; Rumelt 1984; Teece et al. 1997). Die Stärke und Ausgestaltung von Appropriierungsregimes[9] bestimmen dabei die Erfolgsaussichten für Innovatoren, Imitatoren und Fälscher (Teece 1986, 2000, 2009). Hierzu zählen technologische Faktoren und insbesondere die Existenz sowie die Durchsetzbarkeit eines Schutzrechtssystems (Teece 1986). In der vorliegenden Dissertation wird davon ausgegangen, dass sowohl Schutzrechtsinhaber als auch Fälscher zumindest kurz- bis mittelfristig die länder- und branchenspezifischen Appropriierungsregimes als gegeben annehmen müssen (Keupp et al. 2009, 2010; Shultz/ Saporito 1996).[10] Die Ausgestaltung eines Appropriierungsregimes aus institutioneller Sicht ist folglich nicht Teil der Untersuchung. Vielmehr stellt dieses einen Ordnungsrahmen dar, an welchen die Ressourcen- und Kompetenzausstattung und somit das Schutz- oder Fälschungsmanagement ausgerichtet und dynamisch angepasst werden müssen. Obwohl die ressourcen- und kompetenzbasierten Ansätze in empirischen Studien zum strategischen Management breite Anwendung gefunden haben (vgl. bspw. Barney/Arikan 2001; Fang et al. 2011; Gruber et al. 2010; Newbert 2007), gibt es im Bereich von (A)CM noch keine entsprechende Untersuchung.

Im Bereich der konfigurationsorientierten Forschung setzt sich die Integration von zwei (Chang/Singh 2000; Mauri/Michaels 1998; McGahan/Porter 1997; Rumelt 1991; Schmalensee 1985) oder bei entsprechender Datenverfügbarkeit auch mehr Ebenen (Dranove et al.

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[9] Teece 1986 definiert diese als „[the] environmental factors, excluding firm and market structure, that govern an innovator's ability to capture the profits generated by innovation" (Teece 1986, S. 287).

[10] Diese Annahme wurde auch in den Expertengesprächen in den Beiträgen 4, 5, 6 und 7 bestätigt.

1998; Fox et al. 1997; Short et al. 2007) aufgrund den erweiterten Erklärungsmöglichkeiten für Performanceunterschiede durch (Short et al. 2003a).

Die beiden Ansätze für die fokussierten Untersuchungsebenen wurden in der Vergangenheit größtenteils getrennt voneinander genutzt. Ein Großteil der Untersuchungen kombiniert die Industrie- mit der Unternehmensebene (Short et al. 2007), obwohl die Ebene der strategischen Gruppen einen wichtigen Erklärungsbeitrag für Leistungsunterschiede von Unternehmen bietet (Ketchen et al. 1997). Darüber hinaus zeigen Short et al. 2007, dass die Verbindung von strategischen Gruppen mit der Unternehmensebene eine größere Relevanz für die induktive Kategorienbildung aufweist. Hierfür gibt es mehrere Gründe: (1) Beide Ansätze teilen sich gemeinsame Elemente zur Analyse von Performanceeffekten (Short et al. 2007). Die zentrale Gemeinsamkeit ist die Bestrebung, Strategien zu formulieren, welche von der Konkurrenz nur schwierig zu imitieren sind. Hierfür werden Isolierungsmechanismen (Rumelt 1984) oder Mobilitätsbarrieren (Hunt 1972; Mascarenhas/Aaker 1989; Porter 1979) verwendet. Während bei den strategischen Gruppen die Wahrnehmung von einigen wenigen homogenen Strategien zur Erklärung von Performanceunterschiedenen innerhalb einer Industrie herangezogen werden, können Unterschiede innerhalb der Unternehmen durch den RBV/CBV in die Untersuchung, bspw. in Form der Schutzrechtsposition eines Unternehmens, integriert werden (Leask/Parnell 2005). (2) Strategische Investitionen in den Ressourcenaufbau sind ein zentrales Element der Bildung von strategischen Gruppen, da Unternehmen mit einem ähnlichen Investitionsmuster vergleichbare Wettbewerbsstrategien formulieren (Bogner et al. 1998; Cool 1985). (3) Das Management von Unternehmensgruppen, welche über gleiche Technologien mit weitestgehend identischen Vermögenswerten, Wissen und Erfahrungen als Ressourcenbasis verfügen, wird daraus ähnliche Strategien ableiten und folglich die Marktattraktivität gleich bewerten (Leask/Parnell 2005; Porac et al. 1989). (4) Des Weiteren beeinflussen die Erfahrungsbasis, organisationale Routinen und die verfügbaren Ressourcen, vergleichbar mit dem Kernkompetenzkonzept, die möglichen Optionen für Strategiewechsel und damit die Wechselchancen zwischen strategischen Gruppen (Bogner 1991; Leonard-Barton 1992).

Gerade die Verbindung der Unternehmensressourcen bzw. -kompetenzen als Alternativenraum für die Strategiefindung mit dem Konzept der strategischen Gruppen als realisierte Strategie wird folglich als wichtiges Element zur Erklärung von Unterschieden im Unternehmenserfolg zwischen und innerhalb von Branchen identifiziert (Joyce 2003; Leask/Parnell 2005; Mahoney/Pandian 1992; Rouse/Daellenbach 1999; Short et al. 2003a). Deshalb bildet die Integration des Konzepts der strategischen Gruppen und der Unternehmensebene auf Basis einer ressourcen- und kompetenzbasierten Sichtweise die konzeptionelle Grundlage der Untersuchungen. Zusammenfassend stellen Schützer und Fälscher folglich die Untersuchungseinheit dieser Arbeit dar. Die gruppen- und ressourcen- bzw. kompetenzorientierte

Sichtweise ist von Vorteil, um Strategien und Instrumente auf Basis der Unternehmenscharakteristika zu untersuchen (Chaudhry/Zimmerman 2009, Staake et al. 2011; Trott/Hoecht 2007). Das homogene Verhalten in den Gruppen wird bei der Bekämpfung oder bei der Hervorbringung von Fälschungen analysiert. Da die Ressourcenausstattung von Schutzrechtsinhabern und Fälschern nicht für die Forschung in irgendeiner frei verfügbaren Form einsehbar oder kommuniziert ist, wird die Analyse der Kompetenzen als eine Lösung zur Bildung von strategischen Gruppen verwendet. Für die Schützer- und Fälschertaxonomien werden die jeweils relevanten Strukturen mittels Schutz- und Fälschungskompetenzen identifiziert und die vorhandenen Strategie- und Instrumentenkonfigurationen untersucht. Anschließend werden diese in Beziehung zum Bekämpfungserfolg als kurzfristige Erfolgseinschätzung sowie zu dynamischen Schutz- und Fälschungsfähigkeiten als längerfristigem Entwicklungspotenzial gesetzt.

2.2 Forschungsmethodik

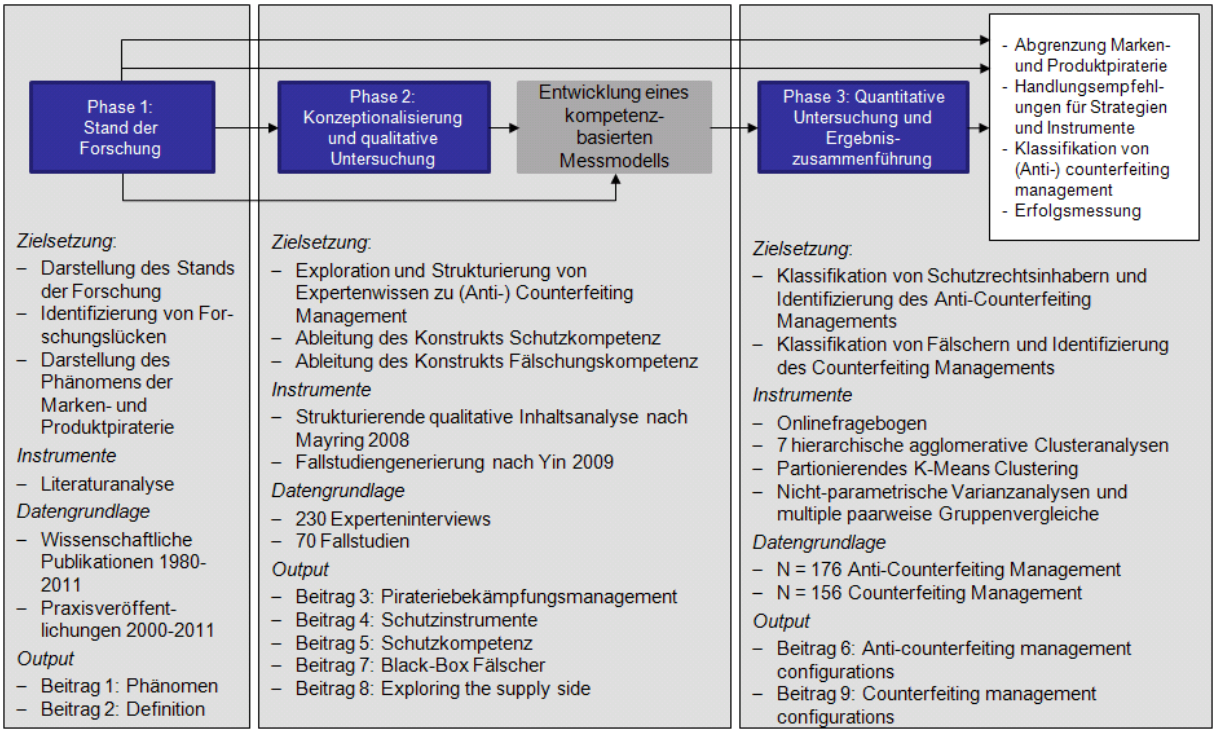
Die Managementforschung zur Marken- und Produktpiraterie und insbesondere zur Analyse der beteiligten Akteure auf Unternehmensebene sieht sich vier Hauptproblemen gegenüber: (1) Im Vergleich zu anderen Forschungsfeldern der Wirtschaftswissenschaften ist nur eine geringe wissenschaftliche Literaturbasis verfügbar. (2) Die Zusammenarbeit mit Originalherstellern sowie deren Informationsweitergabe sind eingeschränkt. Gründe hierfür sind Geheimhaltungsbestrebungen bedingt durch die Sensibilität der Thematik sowie mangelndes Wissen aufgrund der Komplexität und Neuheit des Themas für Unternehmen. (3) Der direkte Zugang zu illegalen Marktteilnehmern ist nicht oder nur unter persönlichen Risiken möglich. Auch Information, welche von Insassen staatlicher Gefängniseinrichtungen gewonnen wird, ist nur schwer zugänglich oder aber stark verfälscht (Chaudhry/Zimmerman 2009; Staake et al. 2009, 2011). (4) Darüber hinaus existieren keine frei verfügbaren qualitativen oder quantitativen Datensätze, welche für empirische Analysen auf Unternehmensebene genutzt werden könnten. Als Folge daraus können ACM und CM als Forschungsfelder charakterisiert werden, welche einen hohen Neuheitsgrad aufweisen, in Bezug auf Variablen wenig verstanden, schwierig zu erfassen und kompliziert zu untersuchen sind. Dadurch ist die Notwendigkeit einer Primärerhebung gegeben.

Im Bereich der konfigurationsorientierten Managementforschung ergibt sich daraus das Problem, dass bereits die Auswahl des Untersuchungssamples, der verwendeten Variablen und der analytischen Instrumente die Ergebnisse beeinflussen kann (Ketchen et al. 1997) und durch die oben aufgeführten Punkte zusätzlich erschwert wird. In der vorliegenden Arbeit ist deshalb eine Methodik zu wählen, welche ohne breite Literaturbasis durchgeführt werden kann, die Möglichkeit zur Primärerhebung von Daten bei offenen Fragestellungen bietet und wissenschaftlichen Gütekriterien entspricht. Mixed-Methods Ansätze bieten den Vorteil, dass die Kombination von qualitativer und quantitativer Forschung einen höheren Erklärungsinhalt

für komplexe Untersuchungsgegenstände in einem explorativen Forschungsstadium als Mono-Method Ansätze haben und die Vorteile der jeweiligen Verfahrensfamilien genutzt werden können (Byrman 2006, 2007; Creswell 2009; Creswell/Plano Clark 2011; Greene et al. 1989; Johnson/Onwuegbuzie 2004). Dennoch ist darauf zu achten, dass die geplanten Ablaufphasen und die darin verwendeten Methoden auf die Forschungsfragen abgestimmt sind und die jeweiligen Phasen die relevanten qualitativen und/oder quantitativen Gütekriterien erfüllen (Bryman et al. 2008; Creswell/Plano Clark 2011).

Auf Basis dieser Überlegungen wird für die Beiträge der vorliegenden Arbeit ein dreistufiges, sequenzielles und explorativ es Mixed-Methods Forschungsdesign (Abbildung 5) erstellt, so dass die skizzierten Probleme angemessen adressiert werden können. Dieses besteht aus (1) Analyse des Stands der Forschung, (2) Konzeptionalisierung, qualitativer Erhebung und Modellerstellung und (3) quantitativer Untersuchung als Grundlage für die empirische Klassifizierung (Creswell 2009; Molina-Azorin 2007, 2012; Molina-Azorin/Cameron 2010). Die einzelnen Phasen werden in den folgenden Unterkapiteln 2.2.1 bis 2.2.3 vorgestellt.

Abbildung 5: Forschungsdesign der kumulativen Dissertation



2.2.1 Phase 1: Literaturanalyse

Aufgrund einer Vielzahl von unterschiedlichen Publikationen zu isolierten Themengebieten und einem Mangel an systematischen Zusammenführungen bzw. wissenschaftlichen Standardwerken ist als erstes Arbeitspaket die gründliche Aufarbeitung der wissenschaftlichen Literatur zum Pirateriephänomen erforderlich. Phase 1 dient insbesondere (1) der umfassende Analyse, Systematisierung und Zusammenführung der einschlägigen Publikationen zur Wirkungsweise und Abwehr von Piraterie, (2) der Bildung eines konzeptionellen Bezugsrah-

mens für (A)CM und (3) dem Aufdecken von Forschungslücken, der Ableitung von Forschungsfragen und der Erarbeitung von Indikatoren für die folgenden empirischen Phasen. Für die Literaturanalyse[11] wurden wissenschaftliche Publikationen auf Inhalte zum Phänomen der Marken- und Produktpiraterie, Definitionen und (A)CM hin untersucht. Grundlage sind elektronische Datenbanken für peer reviewed Journals (EBSCOhost Business Source Premier, WISO und ScienceDirect) im Zeitraum zwischen den Jahren 1980 und 2011. Ergänzend wurden stärker praxisorientierte Zeitschriften und Fachbücher zwischen 2000 und 2011 aufgenommen.

2.2.2 Phase 2: Qualitative Inhaltsanalyse

Für Phase 2 wurde aufgrund der bereits skizzierten spezifischen Herausforderungen ein qualitativer Forschungsansatz[12] gewählt. Dieser erlaubt ein induktives Untersuchungsdesign, welches sowohl die Aufbereitung eines anfänglichen Konstruktes als auch die Aufnahme, Änderung und Aussonderung von Elementen ermöglicht (Cassell/Symon 2009; Creswell 2009; Denzin/Lincoln 2011). Angesichts des frühen Forschungsstadiums liegt der Fokus in Phase 2 auf einer umfassenden und möglichst funktions- bzw. industrieübergreifenden Datensammlung (Tabelle 1).

Tabelle 1: Samplebeschreibung für Phase 2 (N = 230)

Funktion	Anteil (%)	ISIC-Sektion[1]	Anteil (%)
Management	15,4	Manufacturing	57,1
Legal Dept.	14,6	Professional, scientific and technical activities	14,7
Anti-Counterfeiting	9,7	Other service activities	9,2
IP Management	8,9	Information and communication	8,2
R&D/TIM	8,1	Transportation and storage	4,3
Academic Research	5,3	Construction	3,8
Marketing	3,6	Public administration and defense; social security	1,1
PR/Communication	3,6	Wholesale and retail trade	0,5
Corporate Security	2,8	Education	0,5
Business Development	2,4	Administrative and support service activities	0,5
Sales Dept.	2,4		
Product Management	1,6		
Quality Management	1,6		
Management Accounting	1,2		
Sonstige[2]	3,6		
Keine Freigabe erteilt	15,0		

[1] = International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4 (UN 2008); [2] = z.B. Key Account Management, Ersatzteil- oder Projektmanagement

Die qualitative Erhebung erfolgt in zwei Teilabschnitten: Zunächst werden in Teilabschnitt 1 Unternehmensfallstudien zu ausgewählten Fragestellungen (z. B. Strategiefindung, Piraterie-fälle, Organisation, etc.) aufbereitet. Hierbei werden sowohl Fallstudien zum erfolgreichen als

[11] Vgl. die Beiträge 1, 2, 3, 4 und 7. In den Beiträgen 5, 6, 8 und 9 sind darüber hinaus themenspezifische Literaturanalysen enthalten.

[12] Vgl. Beitrag 8.

auch nichterfolgreichen Umgang mit der Pirateriebedrohung von deutschen Unternehmen (vor Ort und im Ausland, insb. in Asien) erarbeitet (Yin 2009). Als Datengrundlage dienen Experteninterviews und interne Dokumente der beteiligten Unternehmen. Diese beinhalteten die derzeitige Bedrohungssituation, Schutz- und Fälschungsstrategien, die relevanten Instrumente, entsprechende Organisationsformen und die erforderlichen Kompetenzen. Zur Verfeinerung und Anpassung des konzeptionellen Bezugsrahmens in Teilabschnitt 2 wurden semi-strukturierte leitfadengestützte Experteninterviews, Fallstudien und interne Dokumente kombiniert (Atteslander 2010; Creswell 2009; Denzin/Lincoln 2011; Mayring 2008). Überdies erfolgt in diesem qualitativ-empirischen Untersuchungsschritt eine differenzierte Analyse der Strategien und Geschäftskonzepte von Marken- und Produktpiraten. Diese empirischen Einblicke in die „Täterperspektive" des Pirateriephänomens dienen der Ergänzung des konzeptionellen Bezugsrahmens, der bislang im Wesentlichen auf Erkenntnissen über die „Opferseite" beruht. Grundlage für Teilabschnitt 2 ist ein sequenzielles Vorgehen gemäß Creswell 2009. Die Interviewdurchführung folgt den Empfehlungen von Kvale 2007.

Für die Inhaltsanalyse[13] (Abbildung 6) wurde die Software MAXQDA 2010 (Kuckartz 2010; VERBI 2011) verwendet. Die qualitative Inhaltsanalyse nach Mayring 2008 bietet ein hohes Maß an Theoriebezug, Regelorientierung und Systematisierung im Untersuchungsprozess zur induktiven und deduktiven Kategorienbildung (Mayring 2000, 2002, 2008). Zielsetzung ist die stufenbasierte Strukturierung und Kategorisierung der gewonnenen Daten. Ausgehend von der Literaturanalyse wird hierbei in den Schritten 1 bis 3 ein erstes Kategoriensystem deduktiv aus Phase 1 abgeleitet. Für die Kategorien werden in Schritt 4 Ankerbeispiele definiert und Kodierregeln für ein standardisiertes Vorgehen festgelegt. Die Kodierung der Daten wird durch die Zuordnung von Sätzen zu den entsprechenden Kategorien vorgenommen (Kuckartz 2010; Kuckartz et al. 2007). Die Schritte 5, 6 und 7 dienen der Extraktion der Fundstellen und der induktiven Anpassung der Haupt- und Unterkategorien zu Marken- und Produktpiraterie, ACM und CM. Nach der Prüfung auf inhaltliche Dopplungen (Schritt 8) werden die Inhalte der einzelnen Kategorien in Schritt 9 verdichtet. Abschließend erfolgt die Zusammenfassung der Unterkategorien innerhalb der Hauptkategorien. In der vorliegenden kumulativen Dissertationsschrift wurden dadurch die Kompetenzkonstrukte in den Beiträgen 5, 6 und 9 erstellt sowie die Ausführungen in den Beiträgen 3, 4, 7 und 8 ergänzt. Die Absicherung der qualitativen Reliabilität und Validität erfolgt gemäß Creswell 2009, Flick 2007 und Gibbs 2007 (Tabelle 7 im Anhang 1).[14]

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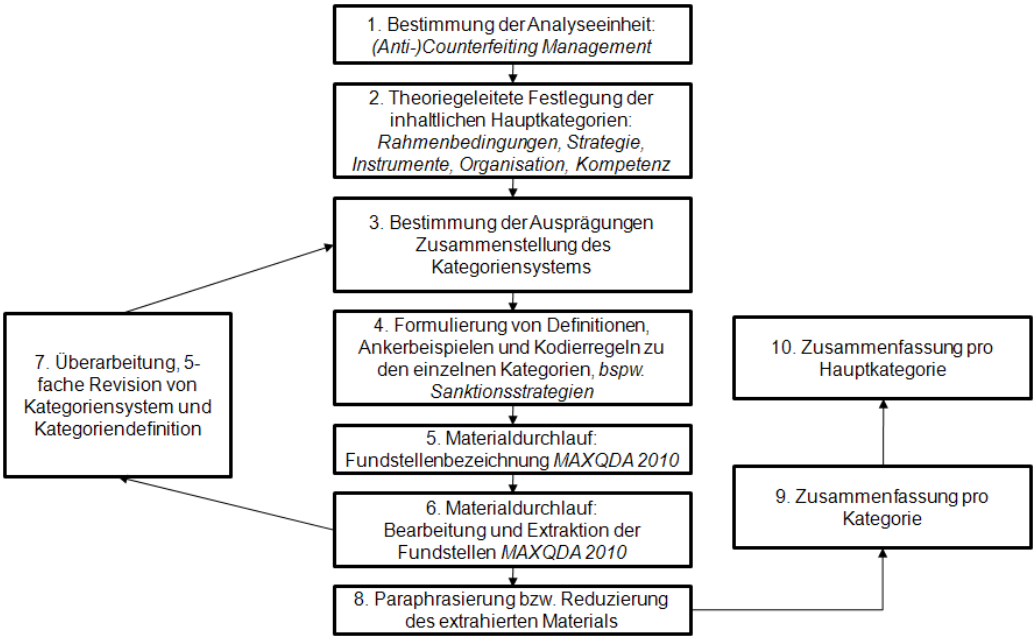
[13] Insgesamt sind in Phase 2 mehr als 1.300 Seiten an Interviewdokumentationen, 350 Seiten Fallstudien und 300 Seiten interne Dokumente erstellt und analysiert worden.

[14] Vgl. die Beiträge 6, 8 und 9.

Abbildung 6: Anwendung der strukturierenden qualitativen Inhaltsanalyse nach Mayring 2008



Quelle: In Anlehnung an und Erweiterung zu Mayring 2008, S. 89.

2.2.3 Phase 3: Quantitative Cluster- und Varianzanalysen

Entsprechend der Ergebnisse aus den vorangegangenen Arbeitspaketen wird in Phase 3 eine Erhebung konzipiert und die Untersuchung der grundlegenden Wirkungsweise von Piraterie sowie die Auswertung der Erfolgswirksamkeit und Gestaltungsparametern von Schutz- und Fälschungssystemen durchgeführt. Zielsetzung für Phase 3 ist die empirische Klassifikation[15] von Schutzrechtsinhabern und Fälschern über Clusteranalysen sowie die Identifizierung und Erfolgseinschätzung der jeweiligen (A)CM Konfigurationen mittels einer nicht-parametrischen[16] Überprüfung der Varianzunterschiede der Gruppen in Form des paarweisen (multiplen) Kruskall-Wallis Tests.[17] Der Fragebogen wurde entsprechend der Empfehlungen von Bühner 2006 entwickelt und getestet. Alle Items werden auf einer fünfstufigen Skala gemessen.[18] Für die Teilnahme an dieser Studie konnten als Hauptpartner die Initiative BASCAP (Business Action to Stop Counterfeiting and Piracy) der internationalen Handelskammer sowie 16 weitere Verbände gewonnen werden. Entsprechend der Vorgehensweise in Phase 2 wird auch in Phase 3 die Generierung einer breiten Samplestruktur über verschiedene Branchen, Länder und Unternehmen angestrebt (Tabelle 2).

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15 Alle Berechnungen erfolgen mit IBM SPSS 19, ALMO 14 und Microsoft Excel 2007.

16 Bei annähernder Normalverteilung der Variablen und gleichzeitiger Varianzheterogenität in den Gruppen auf Basis eines signifikanten Levine-Tests sollte eine (M)ANOVA nicht mehr zum Gruppenvergleich eingesetzt werden (Field 2009).

17 Vgl. die Beiträge 6 und 9.

18 Vgl. die Anhänge in den Beiträgen 6 und 9.

Tabelle 2: Teilnehmende Verbände und Einrichtungen in Phase 3

Verband/Einrichtung	Industrie	Typus	Land
ACG – Anti-Counterfeiting Group	CG[2] & IG[3]	MNU[4]	U.K.
AIM – European Brands Association des Industries de Marque	CG & IG	MNU	Europa
AIWG – Automotive Industry Working Group	Automotive	MNU	China
APM – German Anti-Counterfeiting Association	CG & IG	MNU, KMU[5]	Deutschland
BOPG – Brand Owners Protection Group	CG	MNU	VAE
CBFA – Customs Brokers & Forwarders Council of Australia	CG & IG	MNU	Australien
CIPR – Coalition for Intellectual Property Rights	CG & IG	MNU	Global
ICC[1] BASCAP – Business Action to Stop Counterfeiting and Piracy	CG & IG	MNU	Global
ICC Belgium	CG & IG	MNU, KMU	Belgien
ICC Mexico	CG & IG	MNU, KMU	Mexiko
ICC Thailand	CG & IG	MNU, KMU	Thailand
INSME – International Network for SMEs	CG & IG	KMU	Global
MARQUES – Association of European Trademark Owners	CG & IG	MNU, KMU	Europa
Orgalime – European Engineering Industries Association	IG	MNU, KMU	Europa
SACG – Swedish Anti-Counterfeiting Group	CG & IG	MNU, KMU	Schweden
SIGNO – Idea Protection for commercialization	Inventors	K(M)U	Deutschland
VDMA – Product and know-how protection, a working group within the German Engineering Federation	IG	MNU, KMU	Deutschland

[1] = International Chamber of Commerce; [2] = consumer goods, [3] = industrial goods; [4] = Multinationale Unternehmen; [5] = Klein- und mittelständische Unternehmen

Der Adressatenkreis umfasst speziell die Unternehmensvertreter in Arbeitskreisen und Abteilungen zur Bekämpfung von Produkt- und Markenpiraterie (Tabelle 3). Von den insgesamt 211 erfassten Rückmeldungen wurden nur Fragebögen mit mehr als 50 Prozent beantworteten Fragen (N_{ACM} = 176, N_{CM} = 156) berücksichtigt.

Tabelle 3: Samplebeschreibung in Phase 3 (N = 211)

Industry division gemäß ISIC Rev. No. 4 (UN 2008)		Funktionen		Erfahrung in ACM in Jahren	
Machinery and equipment	17,5%	IP Management	22,7%	< 1	6,6%
Computer & electronics	10,0%	Legal Department	18,5%	< 3	12,8%
Other manufacturing	7,1%	Anti-Counterfeiting	11,4%	< 5	18,5%
Electrical equipment	7,1%	General Management	11,4%	< 7	20,9%
Pharmaceuticals	6,6%	Marketing Department	8,5%	7+	25,6%
Motor vehicle	5,7%	Corporate Security	5,7%	MV	15,6%
Furniture	5,2%	R&D	5,7%		
Textiles	4,3%	Others[3]	13,2%		
Other[2]	4,7%	MV	10,9%		
MV[1]	31,8%				

Ländergruppen nach Einkommen in US $ (WB 2012)		Unternehmensgröße nach Mitarbeitern		Unternehmensgröße nach Umsatz in US $	
Low (<1.005)	0,5%	0 - 499	12,8%	0 - 499 Mio.	28,4%
Lower-middle (1.006-<3.975)	1,4%	500 - 999	6,6%	500 - 999 Mio.	10,9%
Upper-middle (3.976-<1.275)	65,4%	1.000 - 4.999	18,5%	1 - 4,99 Mrd.	20,4%
High-income non-OECD (>12.276)	2,8%	5.000 - 9.999	11,4%	5 - 9,99 Mrd.	7,1%
High-income OECD (>12.276)	27,5%	10.000 +	35,1%	10 Mrd. +	16,6%
MV	2,4%	MV	15,6%	MV	16,6%

[1] = Missing value; [2] = u.a. retail, chemicals, plastics products; [3] = u.a. Consulting, Qualitätsmanagement

Für die konfigurationsorientierte Untersuchung stellen Clusteranalysen ein etabliertes Instrumentarium in der Forschung zum strategischen Management zur Datenreduzierung und Struktursuche dar (Aldenderfer/Blashfield 1984; Blashfield/Aldenderfer 1978; Ketchen/Shook 1996). Clusterverfahren[19] identifizieren Klassifikationen anhand vorab spezifizierter Variablen auf Basis von (Un-)Ähnlichkeitsmaßen, indem Distanzen oder Varianzen innerhalb einer Gruppe minimiert und zwischen verschiedenen Gruppen maximiert werden (Ketchen/Shook 1996). Für die Clusteranalysen wurden die im Fragebogen bewerteten Fähigkeiten zu gleichgewichteten Kompetenzindizes aggregiert. Bei der Ausgestaltung der unterschiedlichen Analysen orientiert sich die vorliegende Arbeit an den Empfehlungen von Ketchen/Shook 1996 und Everitt et al. 2011 für die Auswahl der Clustervariablen und Clusterverfahren sowie für die Bestimmung der Clusterzahl und der Reliabilitäts- bzw. Validitätssicherung.[20] Aufgrund der explorativen Ausrichtung dieser Untersuchung wird für die Gewinnung der Clustervariablen ein kognitiver Ansatz auf Basis der Industrieexperten aus Phase 2 zur Auswahl und Absicherung der diskriminanten Validität der Variablen verwendet (Ketchen/Shook 1996; Mascarenhas/Aaker 1989; Reger/Huff 1993). Die konzeptionellen Modelle für (A)CM beruhen auf einer klar spezifizierten geringen Anzahl an Clustervariablen zur Reflektion der jeweiligen Kompetenzen. Die Validitätssicherung beruht auf einer umfassenden Zahl an deskriptiven Variablen zur Beschreibung der Strategien und Instrumente, welche nicht in die Clusteranalyse selbst, sondern in die anschließenden Varianzanalysen einfließen.

In der vorliegenden Untersuchung wird ein zweistufiges Design für die Clusteranalysen verwendet, da eine anfängliche Clusterzahl unbekannt ist und dennoch eine präzise Zuordnung der Unternehmen zu den Clustern erfolgen soll. Zur Erhöhung der Validität der Lösung werden deshalb hierarchische und partitionierende Verfahren kombiniert (Milligan 1980; Punj/Stewart 1983). Zuerst werden sieben hierarchisch-agglomerative Algorithmen[21] auf Basis der quadrierten euklidischen Distanz zur Berechnung der anfänglichen Clusterzugehörigkeiten, zur Stabilitätsprüfung und zur kriterienbasierten Identifikation der Clusteranzahl verwendet. Im zweiten Schritt wird die finale Zuordnung der Untersuchungseinheiten zur identifizierten Clusterzahl über das partitionierende K-Means Verfahren für die finale Clusterlösung vorgenommen. Somit wird sowohl der Vorteil der hierarchischen Verfahren zur umfassenden empirischen Bestimmung der Clusterzahl als auch der Vorteil der Fehlerreduzierung bei der Zuordnung von Fällen zu Clustern durch partitionierende Verfahren genutzt. Für die Identifizie-

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[19] Für eine umfassende Darstellung der verschiedenen genutzten hierarchischen und partionierenden Clusteranalysen wird auf Aldenderfer/Blashfield 1984; Bacher et al. 2010; Everitt et al. 2011 sowie Schendera 2010 verwiesen.

[20] Vgl. die Beiträge 6 und 9.

[21] Diese umfassen mit Nächste-Nachbarn- (Complete-Linkage, Sinlge-Linkage), Mittelwert- (Average Linkage, Within-Average Linkage) und Clusterzentrenverfahren (Centroid Linkage, Median Linkage, Ward) die drei dominanten agglomerativen Verfahrensgruppen (Bacher et al. 2010).

rung der finalen Clusterzahl wird eine Kombination aus einer visuellen und kriterienbasierten Überprüfung[22] der Cluster über alle sieben Verfahren verwendet. Die visuelle Kontrolle über Dendrogramme und inverse Screeplots dient dabei der Eingrenzung der relevanten Clusterzahl auf zwei bis sechs Cluster (Everitt et al. 2011). Um eine Missinterpretation durch den Forscher zu vermeiden, werden für die kriterienbasierte Prüfung sechs Testgrößen für die interne Konsistenz sowie der Stabilitätsindex von Rand (Rand 1971) verwendet. Für die interne Konsistenzprüfung werden die Indiktoren Mojena 1, Mojena 2, der γ Koeffizient, der C-Index, die G1 Homogenität und der W/B Index ausgewählt, da diese zu den zehn besten Evaluationskriterien für Clusteranalysen gehören (Milligan 1981a, b; Milligan/Cooper 1985). Diese werden in einem hierarchischen Verfahren auf Basis der Platzierung in den genannten Studien verwendet. Zur Erhöhung der Reliabilität wurde diese Evaluation von drei Forschern unabhängig voneinander durchgeführt; die Ergebnisse anschließend verglichen und diskutiert. Das finale Ergebnis der Clusteranalysen wurde Experten aus einem Branchenverband zur Prüfung der externe Validität vorgestellt. Für die Bestimmung der (A)CM Konfigurationen wurden abschließend die Strategien, Instrumente, deskriptive Variablen und Outputvariablen in den Gruppen über Boxplots visuell überprüft und mittels Varianzanalysen unter Verwendung des Kruskal-Wallis Tests auf signifikante Differenzen hin untersucht. Abschließend werden die (A)CM Konfigurationen unter Verwendung des Exakt Fischer-Tests (Field 2009) in Verbindung zu Ländergruppen, dem Produktlebenszyklus sowie zu ihrer Branchenzugehörigkeit gesetzt.

[22] Vgl. Bacher et al 2010.

3. Zusammenfassungen der einzelnen Beiträge

Die verschiedenen Beiträge der kumulativen Dissertation werden nachfolgend einzeln gemäß § 1 der Ausführungsbestimmungen nach § 8 Absatz 5 der Promotionsordnung des Fachbereiches Wirtschaftswissenschaften der Philipps-Universität Marburg vom 8. Juni 2009 zusammengefasst. Hierfür enthält jeder Beitrag eine kurze Charakterisierung bezüglich Autoren, Erst- und Zweitautorenschaft, Veröffentlichungsjahr, Publikationsform und Methodik in Tabellenform.

3.1 Teil 1: Problem und Phänomen Marken- und Produktpiraterie

3.1.2 Beitrag 1: Dimensionen der Betrachtung von Produkt- und Markenpiraterie

Autoren (Anteile %)	Schneider, M.J. (75), Stephan, M. (25)
Publikationsform, Jahr	Buchbeitrag, 2011
Veröffentlichung	Stephan, M., Schneider, M.J., (Hrsg.): Produkt- und Markenpiraterie – Fälscherstrategien, Schutzinstrumente, Bekämpfungsmanagement, Symposion Publishing, Düsseldorf, S. 19-41.
Methodik / Datengrundlage	Literaturanalyse / bestehende Literatur

Die **Motivation** für diesen Beitrag ist durch die realwirtschaftliche Entwicklung des Fälschungsphänomens zu einem stetig wachsenden Problem für die globale Wirtschaft und der gleichzeitig nur auf Teilfragestellungen beruhenden öffentlichen und wissenschaftlichen Diskussion entstanden. **Ziel** ist es, die praktische Relevanz der Marken- und Produktpiraterie darzustellen, die relevanten Dimensionen für die unternehmerische Tätigkeit aufzuzeigen und die einzelnen Perspektiven in einem differenzierten inhaltlichen Ansatz zu systematisieren. Hierfür werden verschiedene Studien und Indizes vorgestellt und ausgewertet.

Im **Ergebnis** wird aufgezeigt, dass Marken- und Produktpiraterie Ursachen in und Auswirkungen auf verschiedene Lebensbereiche haben. Grundlegend handelt es sich um kein Problem der Neuzeit, sondern um ein von lokaler auf globaler Ebene gewachsenes Phänomen, das vier Kerndisziplinen tangiert.

Die **rechtliche Dimension** bezieht sich auf die von der Produkt- und Markenpiraterie verletzten Schutzrechte und Möglichkeiten der Strafverfolgung. Jenseits des operativen Umgangs mit Fälschungsfällen wird gezeigt, dass Schwächen der Rechtspflege und -durchsetzung des länderspezifischen Schutzrechtssystems das Aufkommen von Fälschungen begünstigen. Die **politische Sicht** beleuchtet Probleme des gesellschaftlichen und insbesondere des politischen Systems. Korruption, Bestechung und Kriminalität bereiten den Nährboden für das Erblühen von Piraterie sowohl auf gesellschafts- als auch auf unternehmenspolitischer Ebene. Die **ökonomische Betrachtungsweise** avisiert den wirtschaftlichen Schaden, der von den unterschiedlichen Fälschungsformen ausgeht. Aus betriebswirtschaftlicher Sicht sind entgangene Umsätze und Gewinne sowie Kosten relevant; auf volkswirtschaftlicher Ebene entstehen Steuerausfälle und Arbeitsplatzverluste. Schließlich orientiert sich die **soziokulturelle**

Dimension an kulturellen Faktoren, die die Einstellung einer Gesellschaft zu geistigen Eigentumsrechten beeinflussen. In der soziokulturellen Dimension steht die gesellschaftliche Bedeutung des Phänomens der Produkt- und Markenpiraterie und somit das Konsumentenverhalten im Mittelpunkt. Für eine vollständige Erfassung der Marken- und Produktpiraterie ist deshalb die kombinierte Betrachtung aller vier Dimensionen anzuraten.

3.1.2 Beitrag 2: Piraterie, Imitation, Fälschung – Ansätze zur Definition

Autoren (Anteile %)	Schneider, M.J. (75), Stephan, M. (25)
Publikationsform, Jahr	Buchbeitrag, 2011
Veröffentlichung	Stephan, M., Schneider, M.J., (Hrsg.): Produkt- und Markenpiraterie – Fälscherstrategien, Schutzinstrumente, Bekämpfungsmanagement, Symposion Publishing, Düsseldorf, S. 41-89.
Methodik / Datengrundlage	Literaturanalyse / bestehende Literatur

Die **Motivation** für diesen Beitrag besteht in der Unklarheit darüber, wie Marken- und Produktpiraterie nicht nur in der juristischen sondern vor allem auch aus einer managementorientierten Sichtweise in Wissenschaft und Praxis genau zu definieren ist und welches Bedrohungspotenzial daraus erwächst. Ein klares Verständnis ist aber die wichtigste Voraussetzung für die Erarbeitung von Managementlösungen. **Ziel** ist die Systematisierung der relevanten Dimensionen, Ursachen und Konsequenzen zur Abgrenzung der Thematik aus Unternehmenssicht. Hierfür werden diese auf Basis der juristischen und ökonomischen Literatur auf nationaler, europäischer und internationaler Ebene vergleichend analysiert. Daraus werden vier relevante Dimensionen zur Systematisierung von Pirateriefällen entwickelt und deren Bedeutung für die Fassung der Marken- und Produktpiraterie abgeleitet. Abschließend werden existierende Ansätze zur Darstellung des Bedrohungspotenzials aufgezeigt.
Im **Ergebnis** ist festzustellen, dass **die Entstehung und der Anstieg** von Produkt- und Markenpiraterie nicht nur durch unternehmensexterne Rahmenbedingungen, sondern auch durch unternehmensinterne Ursachen (bspw. Dominanz von Umsatzzielen, Fehler in der Partnerselektion) als Quellen für einen ungewollten Wissensabfluss begründet sind. Piraterie tritt dabei in vielfältigen Erscheinungsformen auf und ist auf internationaler Ebene nicht einheitlich und präzise abgegrenzt. Die für das Management relevanten Optionen Innovation, Imitation und Fälschung unterscheiden sich dabei zumindest in Bezug auf die Legalität. Zur weiteren Eingrenzung müssen die einzelnen Fälle zusätzlich auf rechtlicher Seite präzisiert sowie auf inhaltlicher, strategischer und zielbezogener Ebene untersucht werden. Auf **rechtlicher Ebene** sind vor allem die verletzten Schutzrechte zur Einleitung von Gegenmaßnahmen zu bestimmen und der Vorsatz nachzuweisen, um zwischen einer kriminellen Handlung und der unbeabsichtigten Imitation eines potenziellen Partners zu differenzieren. Die **inhaltliche Dimension** beinhaltet die Analyse der betroffenen Objekte (bspw. Produkte oder Prozesse). Aus **strategischer Sicht** sollten die beobachtbaren marktbezogenen Strategien (Zielmärkte, Markteintrittszeitpunkt) der Fälscher analysiert und die Haupttätigkeit (Produkti-

on oder Vertrieb) bestimmt werden. In der **Zieldimension** geht es schließlich um die Analyse der längerfristigen Ziele der Fälscher, da Fälschungen bspw. aus einer reinen Gewinnerzielungsabsicht oder bewusst zum Schaden eines Originalherstellers eingesetzt werden können. Die vier Dimensionen können für sich hierarchisch bewertet oder in den Ansatz von Hopkins et al. 2003 zur Einschätzung des Bedrohungspotenzials integriert werden.

3.2 Teil 2: Theorie und Empirie unternehmerischer Anti-Counterfeiting-Systeme

3.2.1 Beitrag 3: Pirateriebekämpfungsmanagement – Strategie und Organisation

Autoren (Anteile %)	Schneider, M.J. (75), Stephan, M. (25)
Publikationsform, Jahr	Buchbeitrag, 2011
Veröffentlichung	Stephan, M., Schneider, M.J., (Hrsg.): Produkt- und Markenpiraterie – Fälscherstrategien, Schutzinstrumente, Bekämpfungsmanagement, Symposion Publishing, Düsseldorf, S. 199-278.
Methodik / Datengrundlage	Literatur- und Inhaltsanalyse / bestehende Literatur und qualitative Ergebnisse aus Phase 2

Die **Motivation** für diesen Beitrag ist in der hohen strategischen Priorität der Pirateriebekämpfung als unternehmensübergreifende Aufgabe und den durch Studien regelmäßig aufgezeigten Problemen von Originalherstellern beim Aufbau von Schutzsystemen begründet. **Ziele** sind die Konzipierung eines grundlegenden unternehmerischen Schutzsystems, die Entwicklung und Formulierung von Schutzstrategien, die Vorstellung der aufbau- und ablauforganisatorischen Einbindung sowie die Erarbeitung der jeweiligen Vor- und Nachteile.
Im **Ergebnis** werden auf Unternehmensebene die Faktoren Information, Schutzstrategie, externe Organisation (Netzwerkmanagement), interne Organisation, Schutzinstrumente und Kontrolle als Kernelemente in ein **Schutzsystem** integriert. Ein kritisches Element von wirksamen Schutzsystemen ist die **Informationsgrundlage** über potenzielle Bedrohungen. Aufbauend auf der Informationsbereitstellung, bspw. durch ein Competitive Intelligence System, und der damit zusammenhängenden Offenlegung des Bedrohungspotenzials, gilt es, sowohl fallbasierte Strategien als auch eine schutzstrategische Grundhaltung festzulegen, die als Basis für die Planung der konkreten Maßnahmen (vgl. Beitrag 4) dient. Für die **Strategieformulierung** werden fallspezifische, umfeldorientierte, defensive, wettbewerbsorientierte, interaktive und adressatenbezogene Optionen sowie die Entwicklung einer schutzstrategischen Stoßrichtung vorgestellt. Neben der Wahl der strategischen Grundhaltung und der auf einen Fälschungsfall passenden Schutzstrategie ist auch die **organisatorische Implementierung** zu planen. Je nach Bedrohungssituation und den individuell zur Verfügung stehenden Schutzmöglichkeiten empfehlen sich verschiedene Konzepte zur organisatorischen Umsetzung der Aufgabe der Pirateriebekämpfung im Unternehmen. Es müssen nicht immer interne Lösungen gefunden werden. Im Falle einer akuten Betroffenheit durch Piraterie sollte jedoch in jedem Fall eine interne Stelle eingerichtet werden, die den gesamten Prozess überblickt und die internen mit den extern vergebenen Aufgaben koordiniert. An der Etablierung, Um-

setzung und Durchsetzung von organisatorischen Schutzsystemen sind die relevanten betrieblichen Funktionsbereiche zu beteiligen. Sämtliche gewonnene Information sollte regelmäßig aktualisiert und in die Kontrolle der internen und externen Umwelt sowie der eigenen Bekämpfungsprozesse bspw. in Form eines **Monitoring-Systems** eingebunden werden.

3.2.2 Beitrag 4: Schutzinstrumente zur Pirateriebekämpfung

Autoren (Anteile %)	Schneider, M.J. (75), Stephan, M. (25)
Publikationsform, Jahr	Buchbeitrag, 2011
Veröffentlichung	Stephan, M., Schneider, M.J., (Hrsg.): Produkt- und Markenpiraterie – Fälscherstrategien, Schutzinstrumente, Bekämpfungsmanagement, Symposion Publishing, Düsseldorf, S. 279-360.
Methodik / Datengrundlage	Literatur- und Inhaltsanalyse / bestehende Literatur und qualitative Ergebnisse aus Phase 2

Die **Motivation** ist entsprechend des Beitrages 3 begründet. Ausgehend von der Vielzahl an zur Verfügung stehenden Instrumente und Maßnahmen liegen die **Ziele** in Beitrag 4 in der Sammlung, Systematisierung und Potenzialanalyse von Schutzinstrumenten. Hierfür wird zuerst die Verbreitung von Schutzinstrumenten in der Praxis untersucht. Anschließend werden Ansätze zur Klassifikation und Auswahl von Schutzinstrumenten systematisiert. Abschließend werden Anwendungshinweise durch die eigene Empirie in Phase 2 zum Einsatz der jeweiligen Instrumente gegeben.

Im **Ergebnis** wird deutlich, dass die Relevanz und die Anwendungshäufigkeit der Instrumente auf Basis bestehender Studien sehr unterschiedlich in verschiedenen Branchen und Zielgruppen ausfallen. **Juristische und managementorientierte** Maßnahmen nehmen regelmäßig eine wichtige Position ein und sollten deshalb von Originalherstellern beherrscht werden. Die Analyse der vorliegenden empirischen Studien zur Pirateriebekämpfung stellt heraus, dass die höchste Effektivität in der Pirateriebekämpfung durch einen **Maßnahmenmix** erzielt wird. Unternehmen sollten folglich ein individuell angepasstes Bündel unterschiedlicher Maßnahmen einsetzen. Dennoch besteht das **Problem in der Auswahl** von Schutzinstrumenten. Unternehmen sollten diese nach den beteiligten **Herkunftsdisziplinen, Ansatzpunkten in der Wertschöpfungskette, Zielgruppen, Zielsetzungen** und der **zeitlichen Anwendbarkeit im Produktlebenszyklus** auswählen. Viele Schutzinstrumente wirken komplementär zu anderen oder sind als flankierende Maßnahmen (bspw. Patentanmeldung und RFID-Tags) zu verstehen. Bei der Komposition des Maßnahmenbündels ist darauf zu achten, dass es neben den komplementären Wirkungsbeziehungen auch konfliktäre Zielbeziehungen zwischen einzelnen Maßnahmen (bspw. Geheimhaltung versus Patentanameldung) geben kann. Viele Maßnahmen dienen dem **speziellen Zweck** des Know-how-Schutzes bzw. der Abwehr von Marken- und Produktpiraterie. Zu nennen sind bspw. technische Schutzmaßnahmen am Produkt gegen ungewolltes Kopieren. Weitere Maßnahmen, wie bspw. Personalentwicklungsprogramme, erfüllen primär bereits **andere Zielsetzungen** im

Tagesgeschäft unabhängig von der Pirateriebekämpfung. Gerade deren Potenziale sollten für erste Schritte zum Schutz verstärkt genutzt bzw. überhaupt erst eingebunden werden, um ohne größeren Ressourcenaufwand eine Grundsicherung sicherzustellen.

3.2.3 Beitrag 5: Ansatzpunkte des Competence-Based View zur Bekämpfung von (Produkt-)Piraterie

Autoren (Anteile %)	Schneider, M.J. (100)
Publikationsform, Jahr	Buchbeitrag, 2011
Veröffentlichung	Stephan, M., Kerber, W., Kessler, T., Lingenfelder, M., (Hrsg.): 25 Jahre ressourcen- und kompetenzbasierte Forschung – Der kompetenzbasierte Ansatz auf dem Weg zum Schlüsselparadigma in der Managementforschung, Gabler, Wiesbaden, S. 139-163.
Methodik / Datengrundlage	Qualitative Inhaltsanalyse / 87 Experteninterviews

Die **Motivation** für diesen Beitrag ist durch die Beobachtung in den vorangegangen Beiträgen begründet, dass eine Vielzahl an Studien darlegt, dass die Möglichkeiten des gewerblichen Rechtsschutzes allein nicht für ein effektives Schutzsystem in Unternehmen ausreichen und ein breites Spektrum an juristischen, technologischen, politischen und managementorientierten Instrumenten eingesetzt werden sollte. Dennoch beachten weder bestehende Studien noch generische Handlungsempfehlungen die Ressourcen- und Kompetenzausstattung eines spezifischen Unternehmens, so dass keine Aussagen über die Passgenauigkeit der Empfehlungen abgegeben werden können. **Ziel** des vorliegenden Beitrags ist deshalb die Untersuchung der Ansatzpunkte des Ressource- bzw. Competence-Based-View (RBV/CBV) zur Generierung einer unternehmerischen Schutzkompetenz als Erklärung unternehmerischer Potenziale im Kampf gegen Marken- und Produktpiraterie. Hierfür werden in einem ersten Schritt die Erklärungsinhalte des RBV/CBV sowie eine prozessorientierte Sichtweise des Schutzmanagements erarbeitet. Anschließend werden diese auf Basis der qualitativen Resultate zum Konstrukt der Schutzkompetenz zusammengeführt.

Im **Ergebnis** wurde die **prozessuale Orientierung** als vorteilhaft von den beteiligten Experten erachtet, da diese den gesamten Ablauf der Pirateriebekämpfung abdeckt. Die **Kompetenzbildung** hat diesen zufolge sowohl in den **Teilprozessen** als auch **prozessbegleitend** stattzufinden. Die direkte Bekämpfung beinhaltet die Teilprozesse Situationsanalyse, Zieldefinition, Strategieformulierung, Ressourcenbereitstellung, Maßnahmenselektion und Monitoring. Begleitet werden diese durch die Informationsgewinnung und Feedback- bzw. Reportingschleifen. Als **dynamische Fähigkeit** konnte die **Rekonfiguration des Schutzsystems** identifiziert werden. Der **Aufbau von Schutzreputation** in der Bekämpfung von Marken- und Produktpiraterie scheint der wichtigste **Wettbewerbsvorteil** zu sein, da dieser produkt- und kundenübergreifend auf Fälscher wirkt und hohes **Abschreckungspotenzial** besitzt. In keinem der befragten Unternehmen konnte die direkte Auseinandersetzung mit dem Aufbau

von Schutzkompetenzen vorgefunden werden. Vielmehr erfolgt eine Konzentration auf ein bis zwei Kompetenzfelder sowie eine daran orientierte Maßnahmenwahl. Die **Differenzierungsfähigkeit der Schutzkompetenz** konnte somit als unternehmensinternes Variablenset für nachfolgende Studien erarbeitet werden.

3.2.4 Beitrag 6: Anti-counterfeiting management configurations and their performance implications: Exploring strategies, instruments, and competencies

Autoren (Anteile %)	Schneider, M.J. (100)
Publikationsform, Jahr	Im Reviewverfahren; o.J.
Veröffentlichung	-
Methodik / Datengrundlage	Mixed-Methods: Qualitative Inhaltsanalyse und Cluster- bzw. Varianzanalysen / 230 Experteninterviews, 70 Fallstudien und interne Dokumente sowie 176 Fragebögen

Beitrag 6 stellt den Abschluss der Untersuchung des Schutzmanagements im Rahmen der kumulativen Dissertation dar. **Motivation** ist die Anpassung, Auswertung und Überprüfung der Resultate in Teil 2. **Ziele** sind die empirische Identifikation und Beschreibung von Schützerklassen und von deren Managementkonfiguration sowie die Bewertung der klassenspezifischen Leistungsfähigkeit. Basis für die qualitative Inhaltsanalyse und die quantitativen Auswertungen sind der ressourcen-/kompetenzbasierte Ansatz und das Konzept der strategischen Gruppen. In Schritt 1 wird das in Beitrag 5 erarbeitete Konstrukt der Schutzkompetenz mit einem erweiterten qualitativen Datensatz überprüft. In Schritt 2 erfolgt die cluster- und varianzanalytische Auswertung der Onlineumfrage unter den Bekämpfungsexperten von Originalherstellern. Abschließend werden die Gruppen und Konfigurationen auf ihr Vorkommen in Ländern, Branchen und dem Produktlebenszyklus hin untersucht.

Als **Zwischenergebnis** konnte sowohl die **prozessorientierte Sichtweise** auf das Schutzmanagement als auch das Konstrukt der **Schutzkompetenz** bestätigt, weiter verfeinert und operationalisiert werden. Schutzmanagement wird durch den **primären Bekämpfungsprozess** (Situationsanalyse, Zieldefinition & Strategieformulierung, Instrumentenauswahl & -anwendung, Monitoring) und den **sekundären Unterstützungsprozess** (Informationsmanagement & Reporting, Netzwerkmanagement, interne Organisation, Evaluation & Ressourcenmanagement) gebildet. Die Schutzkompetenz kann durch die Analyse von sieben Fähigkeiten in Form von Indexwerten gemessen werden. Hierzu werden informatorische, strategische, organisationale, instrumentale, evaluatorische, netzwerkorientierte und R eporting-Fähigkeiten operationalisiert und aus gewertet. Als **Endergebnis** werden mit *Networking Enforcer*s, *Lone Fighters*, *Procrastinators*, *Secret Keepers*, und *Fully integrated Anti-Counterfeiters* fünf verschiedene Schützerklassen identifiziert, deren Managementkonfigurationen aufgezeigt und die Leistungsfähigkeit bewertet. Die gefundenen Klassen weisen höchst signifikante Unterschiede in der Kompetenzausstattung sowie den Managementkonfigurationen auf. Die kurzfristige Leistungsfähigkeit ist jedoch insgesamt auf einem moderaten

Niveau, wobei *Networking Enforcers*, *Lone Fighters* und *Fully integrated Anti-Counterfeiters* höheren Erfolg aufweisen. Langfristig zeigen sich Vorteile für die Entwicklungspotenziale und das fallübergreifende Schutzmanagement vor allem bei den *Networking Enforcers* und den *Fully integrated Anti-Counterfeiters*.

3.3 Teil 3: Theorie und Empirie unternehmerischer Counterfeiting-Systeme

3.3.1 Beitrag 7: Black-Box Fälscher? Praxis des Pirateriemanagements

Autoren (Anteile %)	Stephan, M. (50), Schneider, M.J. (50)
Publikationsform, Jahr	Buchbeitrag, 2011
Veröffentlichung	Stephan, M., Schneider, M.J., (Hrsg.): Produkt- und Markenpiraterie – Fälscherstrategien, Schutzinstrumente, Bekämpfungsmanagement, Symposion Publishing, Düsseldorf, S. 121-197.
Methodik / Datengrundlage	Literatur- und Inhaltsanalyse / bestehende Literatur und qualitative Ergebnisse aus Phase 2

Die **Motivation** für diesen Beitrag basiert auf dem Defizit, dass die Fachliteratur bisher kaum tiefere Einblicke in die Praxis der Pirateriepoduktion liefert. Die Angebotsseite der Pirateriemärkte wird bislang weitestgehend als Black Box betrachtet, da Informationen über die illegal handelnden Akteure nur schwer zu erlangen sind. Das **Ziel** ist die Erarbeitung zusammenhängender und detaillierter Einblicke in die Komposition der Wertschöpfungskette, in Handelsstrukturen und in die Strategien bzw. Geschäftsführungspraktiken der Fälscher, die in der Fachliteratur bisher fehlen. Hierzu erfolgen ein Analyse von bestehenden Fälschertypen, die Vorstellung der Wettbewerbsvor- und -nachteile im Vergleich zu Originalherstellern, sowie die Beschreibung von Fälscherstrategien und taktischen Maßnahmen.

Im **Ergebnis** sind Hersteller und Verkäufer von Pirateriewaren Trittbrettfahrer, die auf illegale Weise versuchen, die geistigen Eigentumsrechte anderer wirtschaftlicher Akteuren ohne Gegenleistung zu nutzen. Aus der Managementperspektive betrachtet unterscheiden sich Fälscher grundlegend darin, ob sie ihre **Fälschungstätigkeit** als Haupt- oder lediglich als Nebengeschäftszweig betreiben. Eng damit verbunden können die Pirateriaktivitäten nach dem **zeitlichen Horizont** der illegalen Geschäftstätigkeit bzw. nach der **Zielsetzung** der Piraten unterschieden werden. Bei vielen Unternehmen stellt die Pirateriaktivität nur eine vorübergehende, kurz- bis mittelfristige Episode dar, die langfristig in eine legale Geschäftstätigkeit übergehen soll. Darüber hinaus nehmen Fälscher verschiedene Positionen in einer arbeitsteiligen **illegalen Wertschöpfungskette** bspw. in Form von Teile- und Komponentenlieferanten oder Systemintegratoren ein. Die **Formulierung von Marktstrategien** erfolgt analog zu Innovatoren und legalen Imitatoren nach Kriterien der Marktattraktivität, welche durch die Stärke der Schutzrechtsposition der Originalhersteller, dem Aufdeckungsrisiko und dem nationalen Schutzrechtssystem komplettiert wird. Fälscher differenzieren die **Standortstrategie** für einzelne Märkte vor allem nach der Produktions-, Vertriebs- und Transportzielen. Hier unterscheiden sich die Strukturen in einzelnen Ländern deutlich. Flankierend zu

Produktions- und Absatzstrategien ergreifen Piraterieunternehmen eine Reihe von **taktischen Maßnahmen**, vor allem in Form von Korruption, um das illegale Produktionsnetzwerk zu schützen, mit den notwendigen Ressourcen zu versorgen und die legale Wertschöpfungskette zu infiltrieren.

3.3.2 Beitrag 8: Exploring the supply side of counterfeiting: Strategies, instruments, and capabilities of counterfeiters

Autoren (Anteile %)	Schneider, M.J. (75), Stephan, M. (25)
Publikationsform, Jahr	1. Erste Version Onlinepublikation, 2011 2. Zweite Version Onlinepublikation, 2012.
Veröffentlichung	1. Erste Version: 6th Annual Conference der EPIP Association, Brüssel; Onlinepublikation, verfügbar unter: http://www.epip.e/conferences/epip06/papers/Paralle¬l%20Session%20Papers/ [27.02.2012] 2. Zweite Version: 12th EURAM Annual Conference, 6.-8. Juni 2012, Rotterdam School of Management, Erasmus University, Rotterdam.
Methodik / Datengrundlage	Literatur- und qualitative Inhaltsanalyse / bestehende Literatur und 230 Experteninterviews, 70 Fallstudien und interne Dokumente

Die **Motivation** geht auf die zunehmende wirtschaftliche Bedeutung der Fälschungsindustrie, deren Professionalisierung sowie dem Mangel an Literatur über dieses Phänomen zurück. **Ziel** ist es, mittels des RBV/CBV zwei für eine managementorientierte Aufarbeitung relevante Forschungsfragen zu beantworten: (1) Welche Strategien und Instrumente setzen Fälscher zur Generierung von Wettbewerbsvorteilen ein? (2) Welche Elemente bestimmen die Kompetenzen zur Professionalisierung der Fälschertätigkeit im Sinne eines Fälschungsmanagements? Im **Ergebnis** konnten sowohl verschiedene Geschäftsmodelle, Strategien und Instrumente als auch eine prozessorientierte Sichtweise auf das Fälschungsmanagement und ein Konstrukt zur Analyse von Fälschungskompetenz erarbeitet werden. Neben den bestehenden Tätigkeiten der Produktion und des Vertriebs konnten die Finanzierung sowie die Organisation des Fälschungssystems als Bestandteile des **Geschäftsmodells** mit spezifischen Stärken und Schwächen identifiziert werden. Fälschungsstrategien hängen dabei von mehreren Faktoren wie bspw. der erforderlichen Fälschungsqualität für ein Kundensegment und der Notwendigkeit zur Verschleierung der Aktivitäten ab. Fälscherinstrumente können den Bereichen Recht, Management, Politik und Technik zugeordnet werden. **Fälschungsmanagement** wird durch den **primären Fälschungsprozess** (direkte illegale Wertschöpfung bestehend aus Situationsanalyse, Strategieformulierung, Instrumentenauswahl und der Entscheidung entsprechend des Geschäftsmodells für Produktion, Distribution, Finanzierung oder Organisation) und den **sekundären Unterstützungsprozess** (Verschleierung der Geschäftstätigkeit, Netzwerkmanagement, interne Organisation sowie Kontrolle der Aktivitäten) gebildet. Fälscher wählen dabei gezielt aus verschiedenen Strategien aus und setzen passende Instrumente ein. Dabei müssen Fälscher **Kompetenzen** aufbauen um relevantes Wis-

sen zu identifizieren, dieses zu integrieren, zu transformieren und schließlich zu verwerten, während sie gleichzeitig die Verschleierung aufrechterhalten und das arbeitsteilige Netzwerk organisieren. Für diese Kompetenzen werden abschließend jeweils fünf **Entwicklungsstufen** aufgezeigt.

3.3.3 Beitrag 9: Counterfeiting management configurations and their performance implications: Exploring strategies, instruments, and competencies

Autoren (Anteile %)	Schneider, M.J. (100)
Publikationsform, Jahr	Im Reviewverfahren; o.J.
Veröffentlichung	-
Methodik / Datengrundlage	Mixed-Methods: Qualitative Inhaltsanalyse und Cluster- bzw. Varianzanalysen / 230 Experteninterviews, 70 Fallstudien und interne Dokumente und 156 Fragebögen

Beitrag 9 stellt den Abschluss der Untersuchung des Fälschungsmanagements im Rahmen der kumulativen Dissertation dar. **Motivation** ist die Anpassung, Auswertung und Überprüfung der Resultate in Teil 3. **Ziele** sind die empirische Identifikation und Beschreibung von Fälscherklassen und von deren Managementkonfiguration sowie die Bewertung der klassenspezifischen Leistungsfähigkeit. Basis für die qualitative Inhaltsanalyse und die quantitativen Auswertungen sind der ressourcen-/kompetenzbasierte Ansatz und das Konzept der strategischen Gruppen. In Schritt 1 wird das in Beitrag 8 erarbeitete Konstrukt der Fälschungskompetenz operationalisiert. In Schritt 2 erfolgt die cluster- und varianzanalytische Auswertung der Onlineumfrage unter den Bekämpfungsexperten von Originalherstellern. Abschließend werden die Gruppen und Konfigurationen auf ihr Vorkommen in Ländern, Branchen und dem Produktlebenszyklus hin untersucht.

Als **Zwischenergebnis** konnte sowohl die **prozessorientierte Sichtweise** auf das Fälschungsmanagement als auch das Konstrukt der **Fälschungskompetenz** aus Beitrag 8 bestätigt und für eine empirische Untersuchung operationalisiert werden. Fälschungsmanagement wird durch den **primären Fälschungsprozess** und den **sekundären Unterstützungsprozess** abgebildet. Die Fälschungskompetenz im Managementprozess kann durch die Analyse von acht Fähigkeiten in Form von Indexwerten gemessen werden. Hierzu werden die Fähigkeit zur Identifikation, Assimilation, Transformation, Verwertung, Strategieformulierung, und Verschleierung sowie zum Instrumenteneinsatz und zum Netzwerkmanagement operationalisiert und ausgewertet. Als **Endergebnis** werden mit *Low-quality Counterfeiters*, *Imitators*, *Contract Counterfeiters*, *Organized Counterfeiting or Crime Syndicates*, und *Marketers and Selling Agents* fünf verschiedene Fälscherklassen identifiziert, deren Managementkonfigurationen aufgezeigt und die Leistungsfähigkeit bewertet. Die gefundenen Klassen weisen signifikante Unterschiede in der Kompetenzausstattung und den Konfigurationen sowie eine leicht eingeschränkte Übertragbarkeit aufgrund der indirekten Befragung auf, so dass weitere branchenspezifische Untersuchungen zu empfehlen sind. Insgesamt zeigt die Studie eine

starke Arbeitsteilung und Spezialisierung der Fälscherseite auf. Den höchsten kurzfristigen Erfolg weisen dabei *Organized Counterfeiting or Crime Syndicate*s sowie *Imitators* als Nebenerwerbsfälscher auf. Diese beiden Gruppen sowie *Marketers and Selling Agents* besitzen darüber hinaus das höchste Entwicklungspotenzial.

4. Zusammenfassende Bewertung der Untersuchung

4.1 Ergebniszusammenführung

Die übergeordnete Zielsetzung des Dissertationsprojekts ist die umfassende Untersuchung, Analyse und Auswertung des Phänomens der Marken- und Produktpiraterie auf Unternehmensebene sowohl auf Schützer- als auch auf Fälscherseite. Das Projekt ist an der Schnittstelle zwischen dem Strategischen Management und dem Intellectual Property Management verortet.

Der Gang der Untersuchung orientiert sich an drei Forschungsfragen und vierzehn Teilfragen auf Basis des ressourcen- und kompetenzbasierten Ansatzes sowie des Konzepts der strategischen Gruppen. In Teil 1 wird der Frage nachgegangen, wie Marken- und Produktpiraterie systematisch analysiert werden kann (RQ 1). Teil 2 dient der Entwicklung eines unternehmerischen Schutzsystems und dessen empirischer Untersuchung (RQ 2). In Teil 3 erfolgt ein Perspektivenwechsel hin zur Analyse von Fälschersystemen und den jeweiligen Akteuren (RQ 3). Das Forschungsdesign basiert auf einem dreiteiligen Mixed-Method-Ansatz aus Literaturanalyse in Phase 1, qualitativer Inhaltsanalyse von Experteninterviews, Fallstudien und internen Dokumenten in Phase 2 sowie einer quantitativen cluster- und varianzanalytischen Untersuchung mittels einer fragebogenbasierten Primärerhebung in Phase 3. Datengrundlage für das Projekt sind 230 Experteninterviews, 70 Fallstudien und interne Dokumente aus Industrie, staatlichen Behörden und Forschungseinrichtungen sowie 176 (Schutzmanagement) bzw. 156 (Fälschungsmanagement) Fragebögen von Unternehmensvertretern in Arbeitsgruppen zur Fälschungsbekämpfung in 17 Verbänden aus dem verarbeitenden Gewerbe in Industrie- und Schwellenländern.

Zur Beantwortung der Forschungsfragen 1 bis 1.4 (Tabelle 4) wurden zwei Beiträge erstellt. Es wird gezeigt, dass Marken- und Produktpiraterie auf Länderebene rechtliche, politische, ökonomische, und gesellschaftliche Dimensionen annimmt, die stark nach Ländern variieren. Diese bilden die Rahmenbedingungen für Schützer und Fälscher als Marktakteure. Zur systematischen Analyse der Auswirkungen auf Unternehmensebene werden vier Dimensionen und die entsprechenden Prüfgrößen erarbeitet. Auf rechtlicher Ebene sind vor allem die verletzten Schutzrechte zur Bestimmung der Anspruchsgrundlage für die Sanktionierung abzuleiten. Die inhaltliche Dimension dient der Identifikation der betroffenen Objekte (bspw. Produkte oder Prozesse) um die gefährdeten Elemente zu bestimmen. Aus strategischer Sicht sind die marktbezogenen Strategien der Fälscher zu identifizieren und deren Haupttätigkeit zur Verdeutlichung der Ausrichtung zu erfassen. In der Zieldimension geht es schließlich um

die Analyse der Absichten der Fälscher. Im Vergleich zur reinen Existenz von Gewinnerzielungsmotiven stellt die gezielte Nutzung von Fälschungen zum Angriff auf Originalhersteller eine höhere Gefahr dar und sollte deshalb forciert bekämpft werden. Für die Entstehung und den Anstieg von Marken- und Produktpiraterie werden neben unternehmensexternen Rahmenbedingungen vor allem auch unternehmensinterne Ursachen als Quellen für einen ungewollten Wissensabfluss aufgezeigt. Mit der Differenzierung der Betrachtungsweise wird eine Kategorisierung der illegalen Imitation zur systematischen Analyse des Phänomens ermöglicht. Die genannten Felder können entweder isoliert untersucht werden oder in bereits bestehende Risikoprofile als Grundlage für die Einschätzung des Bedrohungspotenzials integriert werden.

Tabelle 4: Forschungsergebnisse 1 bis 1.4 - Phänomen Marken- und Produktpiraterie

Forschungs-frage	Ergebnis

1 Systematisierung & Bewertung	- *Mehrdimensionaler* Ansatz
	  - Globale Dimensionen
	  - Unternehmensbezogene Kriterien
	  - Unternehmensinterne und -externe Ursachen
	  - Konsequenzen zumindest für Unternehmen, Konsumenten und Gesellschaft
	- *Isolierte Bewertung* oder Integration und Erweiterung der *Harm-Matrix* nach Hopkins et al. 2003

1.1 Dimensionen	Globale Dimensionen *Recht*, *Politik*, *Ökonomie* und *soziokulturelle Elemente* auf Länderebene

1.2 Management-orientierten Sichtweise	- Formen illegaler Imitation
	  - *Produktpiraterie*: Verletzung gewerblicher technischer Schutzrechte, UrhG, GeschmMG
	  - *Markenpiraterie*: Verletzung nichttechnischer Schutzrechte und des UrhG
	  - *Konzeptpiraterie*: Verletzung des UWG und des UrhG
	- *Hierarchische Analyse* von vier Dimensionen aus *rechtlichen*, *inhaltlichen*, *strategischen* und *zielbezogenen* Kriterien auf Unternehmensebene

1.3 Ursachen Konsequenzen	- Identifizierte *Ursachen*
	  - *Unternehmensextern*: bspw. kulturelle Unterschiede, ökonomische Anreize
	  - *Unternehmensintern*: bspw. Dokumentationen, Kooperationen, Lizenzierung, Messen, Mitarbeiter
	- *Negative Konsequenzen dominieren*
	  - Konsument: Gesundheitsrisiken, Illegalität, nicht funktionsfähige Produkte
	  - Unternehmen: Vielfältige kurz- und langfristige Schäden, bspw. Umsatzverluste und Markenverwässerung
	  - Staat: Arbeitsplatzverluste, geringeres Steueraufkommen

1.4 Bewertung	- *Isolierte Bewertung* der in 1.1-1.3 dargestellten Elemente - *Erweiterung* und Integration der *Harm-Matrix* nach Hopkins et al. 2003

Die managementtheoretische Ausrichtung der Untersuchung wird in den Forschungsfragen 2 bis 2.5 für die Analyse und den Aufbau von unternehmerischen Schutzsystemen mit vier Beiträgen und in den Forschungsfragen 3 bis 3.5 für die Angebotsseite von Fälschungen mit drei Beiträgen vertieft.

Aus den Beiträgen für das Schutz- und Fälschungsmanagement sind insbesondere vier zentrale Ergebnisse hervorzuheben. Dabei handelt es sich um (1) die Ausarbeitung eines unternehmerischen Schutzsystems, (2) die Erarbeitung von zwei Prozessmodellen für Schutz- und Fälschungsmanagement, (3) die Identifikation der zugrundeliegenden Kompetenzstruk-

turen und Überführung in ein Bewertungsmodell und (4) die umfassende empirische Analyse und Bestimmung von Schützer- und Fälscherklassifikationen bzw. -konfigurationen.
Tabelle 5 zeigt die Zusammenfassung für die Forschungsfragen 2 bis 2.2 zur Etablierung von Schutzsystemen.

Tabelle 5: Forschungsergebnisse 2 bis 2.2 - Schutzmanagementsysteme

Forschungs-frage	Ergebnis
2 Schutz-management	- *Schutzsystem* - *Schutzkompetenzen* - *Schutzmanagementkonfigurationen*

2.1 Schutz-system	- *Schutzsystem*
	  - *Information*: Gewinnung, Verarbeitung, Verifizierung, Monitoring: Competitive Intelligence System
	  - *Strategie*: Situationsanalyse, Zieldefinition, fallspezifische und grundlegende Strategieformulierung bzw. -implementierung
	  - *Externe Organisation*: Netzwerkfindung, -etablierung, -steuerung
	  - *Interne Organisation*: Auf- und Ablauforganisation, Teambildung, Ressourcenbereitstellung
	  - *Instrumente*: Maßnahmenselektion und -anpassung
	  - Kontrolle: Evaluation, Feedback, Reporting
	- *Strategieformulierung*:
	  - *Bekämpfungsspezifisch*:
	  - *Fallbasiert*: bspw. umfeldorientiert, defensiv, adressatenbezogen
	  - *Grundhaltung*: Duldung, Kooperation, Sanktion, Prävention
	  - *Allgemein*: z.B. Skalen- und Lernkurvenvorteile, Kontrolle komplementärer Ressourcen, Systemlösungen
	- *Instrumentenauswahl und -einsatz*
	  - *Auswahl*: Funktional, wertschöpfungsorientiert, adressatenbezogen, zielorientiert, zeitbezogen
	  - *Einsatz*: Grundstock an spezifischen juristischen und managementorientierten Instrumenten erforderlich, Beachtung des Potenzials von bereits im Unternehmen vorhandenen Instrumenten (bspw. Personalmanagement)

2.2 Konzeption Schutz-management	- *Schutzmanagement*: Primärkoordination des Bekämpfungsprozesses und Sekundärkoordination der Unterstützungsprozesse
	- *Prozessorientiertes Modell* des Schutzmanagements
	  - *Primärprozess*: Situationsanalyse, Zieldefinition & Strategieformulierung, Instrumentenauswahl und -anwendung, Monitoring
	  - *Sekundärprozess*: Informationsmanagement und Reporting, Netzwerkmanagement, interne Organisation, Evaluation und Ressourcenmanagement
	- *Bewertungsmodell der Schutzkompetenz und Managementkonfiguration*
	  - Sieben Bewertungsdimensionen (bspw. Informatorische, strategische oder organisationale Fähigkeiten) auf Kompetenzebene mit 22 Kriterien
	  - Erfolgsmessung mit zwei Bewertungsdimensionen (Kurzfristiger Erfolg und Entwicklungspotenzial) mit acht Kriterien
	  - Schutzmanagementkonfigurationen aus sechs Strategien und fünf Instrumentenklassen

(1) Das vorgestellte unternehmerische Schutzsystem[23] stellt die bis dato umfassendste Aufarbeitung und Integration der verschiedenen Teilelemente zu einem ganzheitlichen Bekämpfungsansatz dar. Dieser besteht aus den Bereichen Information, Strategie, externe und interne Organisation, Instrumente und Kontrolle. In den einzelnen Bereichen werden die relevan-

[23] Vgl. die Beiträge 3 und 4.

ten Gestaltungsparameter, Auswahlalternativen und Anwendungsbesonderheiten aufgezeigt. Ein Schwerpunkt liegt auf den Möglichkeiten der Informationsgewinnung durch ein Competitive Intelligence System, da die Informationsverfügbarkeit für die Einleitung eines zielgerichteten Schutzprozesses eine wesentliche Voraussetzung darstellt. Als weitere zentrale Elemente werden die Bereiche Strategie und Instrumente behandelt. Bei der Strategieformulierung wird zwischen fallbasierten, allgemeinen und grundlegenden Schutzstrategien unterschieden und die jeweiligen Besonderheiten erläutert. Die Instrumentenauswahl und deren Einsatz ergänzen die Ausführungen. Die organisatorische Verankerung rundet den Aufbau des Schutzsystems durch die Vorstellung der aufbau- und ablauforganisatorischen Alternativen und den spezifischen Vor- und Nachteilen ab. Dadurch wird ein großer Mehrwert für die Praxis durch die Bereitstellung eines Orientierungsrahmens für den Aufbau von Schutzsystemen und durch die umfangreichen Handlungsempfehlungen geschaffen. Auch wenn der Praxisnutzen überwiegt, profitiert die Forschung auf konzeptioneller Ebene durch die Strukturierung und Systematisierung der bislang ungeordneten Thematik.

(2) Für die Modellierung von Schutz- und Fälschungsmanagement werden zwei Prozessmodelle erarbeitet und auf Basis von Expertenwissen verfeinert. Diese beinhalten sowohl die direkten Bekämpfungs- bzw. Fälschungsprozesse sowie die jeweils relevanten Unterstützungsprozesse. Das prozessorientierte Schutzmodell kann mit den Ausführungen zur Aufbauorganisation im Schutzsystem kombiniert und durch weitere Teilprozesse erweitert werden.[24] Mit dem Fälschungsmodell wird ein zentraler Beitrag zur Forschung geliefert, da es eine umfassende Untersuchung der Fälscherstrukturen erlaubt.[25] Damit stehen erstmals in sich geschlossene Modelle auf Unternehmensebene bereit und können als Grundlage für eine fundierte Analyse von Originalherstellern und Fälschern verwendet werden.

(3) Die Identifikation und Operationalisierung der zugrundeliegenden Kompetenzmodelle, dynamischen Fähigkeiten und Erfolgsmaße komplettieren die prozessorientierte Analyse des Schutz- und Fälschungsmanagements. Mithilfe des RBV/CBV wird das Konstrukt der Schutzkompetenz eines Unternehmens erstmals konzeptionell präzisiert. Unter Schutzkompetenz sind unternehmensspezifische Ressourcen, Fähigkeiten und Kompetenzen im Umgang mit der Pirateriebedrohung zu verstehen. Dazu zählt auch der Aspekt der organisatorischen Verankerung und Implementierung der Schutzfunktion im Unternehmen. Andererseits bietet das Konstrukt der Fälschungskompetenz die Möglichkeit, die bisher unbekannten bzw. wenig verstandenen Fälscher sowie deren Strategien und Instrumente analysierbar zu machen. Analog zur Schutzkompetenz zeigt die Fälschungskompetenz unternehmensspezifische Ressourcen, Fähigkeiten und Kompetenzen zur Hervorbringung von Fälschungen auf. Die

[24] Vgl. die Beiträge 5 und 6.

[25] Vgl. Beitrag 8.

Bestimmung der Schutz- bzw. Fälschungskompetenz liefert einen wichtigen konzeptionell-theoretischen Erklärungsbaustein für die erfolgreiche Anwendung von Strategien und Maßnahmen, da somit der unterschiedliche unternehmerische Erfolg beim Einsatz von Schutzinstrumenten präziser erklärt werden kann als durch eine reine externe Betrachtungsweise. Die sowohl qualitativ als auch quantitativ validierten Konstrukte können als Baustein für zukünftige empirische Untersuchungen verwendet werden. Darüber hinaus ermöglichen sie eine erste qualitative Analyse in der Praxis. Tabelle 6 fasst die Ergebnisse für die Forschungsfragen 3 bis 3.2 für die Untersuchung von Fälschern zusammen.

Tabelle 6: Forschungsergebnisse 3 bis 3.2 - Fälschungsmanagementsysteme

Forschungs-frage	Ergebnis
3 Fälschungs-management	- *Fälschungssystem* - *Fälschungskompetenzen* - *Fälschungsmanagementkonfigurationen*

3.1
Fälschungs-system
	- *Fälschungssystem*
	  - *Fälschung*: Produktionsfähigkeiten und Qualität
	  - *Fälschungstätigkeit:* Haupt- / Nebengeschäftszweig
	  - *Zeithorizont & Zielsetzung*: Permanente vs. temporäre Ausrichtung
	  - *Wertschöpfungsstufen:* Hohe Arbeitsteilung, bspw. Teile- und Komponentenfälscher
	  - *Geschäftsmodelle*: Produktion, Distribution, Organisation, Finanzierung
	- *Strategieformulierung:*
	  - Markt-, Absatz-, Produktions- und Standortstrategien
	- *Instrumentenauswahl und -einsatz*:
	  - Juristisch: z.B. Illegitime Schutzrechtsanmeldung
	  - Management: z.B. Schmuggel, indirekte Absatzkanäle
	  - Technik: z.B. Fälschung von technischen Schutzinstrumenten
	  - Politisch: z.B. Bestechung, Aufbau von Fälschernetzwerken

3.2
Konzeption Fälschungs-management
	- *Fälschungsmanagement*: Primärkoordination des Fälschungsprozesses und Sekundärkoordination der Unterstützungsprozesse
	- *Prozessorientiertes Modell* des Fälschungsmanagements
	  - *Primärprozess*: Situationsanalyse, Strategieformulierung, Instrumentenauswahl, Produktion, Distribution, Finanzierung oder Organisation
	  - *Sekundärprozess*: Verschleierung der Geschäftstätigkeit, Netzwerkmanagement, interne Organisation, Kontrolle
	- *Bewertungsmodell der Fälschungskompetenz und Managementkonfiguration*
	  - Acht Bewertungsdimensionen (bspw. Identifikation, Assimilation, Transformation oder Verwertung) auf Kompetenzebene mit 18 Kriterien
	  - Erfolgsmessung mit zwei Bewertungsdimensionen (Kurzfristiger Erfolg und Entwicklungspotenzial) mit acht Kriterien
	  - Fälschungsmanagementkonfigurationen aus acht Strategien, 15 Instrumenten und dem Geschäftsmodell (sechs Kriterien)

(4) Diese Konstrukte werden einer empirischen Überprüfung[26] unterzogen indem die kompetenzorientierte Sichtweise mit dem Konzept der strategischen Gruppen kombiniert wird, um Schützer- und Fälscherklassen zu identifizieren, deren Managementkonfigurationen zu bestimmen und erstmals den Erfolg und die Entwicklungspotenziale zu bewerten.

[26] Vgl. Beiträgen 6 und 9.

Das Bewertungsmodell der Schutzkompetenz und Managementkonfiguration basiert auf sieben Bewertungsdimensionen auf Kompetenzebene mit 22 Kriterien. Die Erfolgsmessung nutzt zwei Bewertungsdimensionen mit acht Kriterien. Das Schutzmanagement beinhaltet die sechs relevantesten Strategien und fünf Instrumentenklassen. Die nachfolgenden Abbildungen 7, 8 und 9 zeigen die Ergebniszusammenfassung für die Schützer.[27]

Abbildung 7: Forschungsergebnis 2.3 - Schützertaxonomie

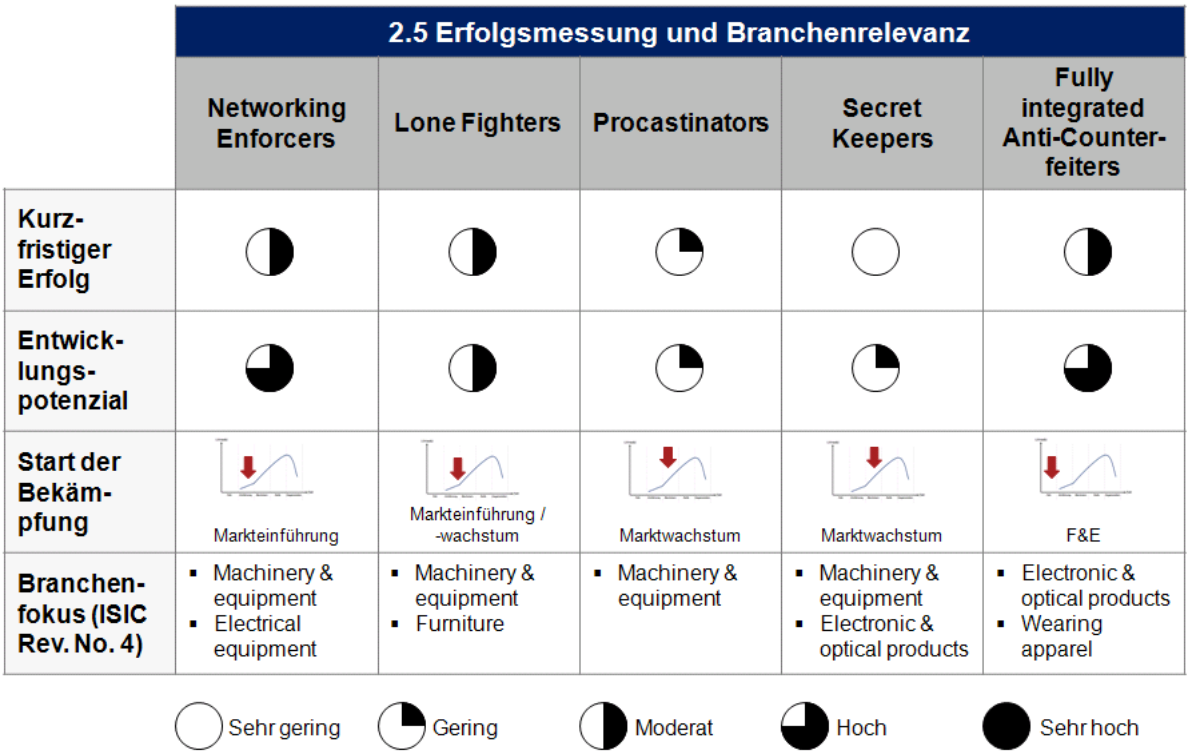
	2.3 Schützertaxonomie				
	Networking Enforcers	**Lone Fighters**	**Procastinators**	**Secret Keepers**	**Fully integrated Anti-Counterfeiters**
Stärken	▪ Strategie ▪ Netzwerk ▪ Reporting	▪ Strategie ▪ Instrumente	▪ Evaluation	▪ Keine	▪ Alle sieben Fähigkeiten
Schwächen	▪ Instrumente ▪ Evaluation	▪ Evaluation ▪ Organisation ▪ Netzwerk	▪ Information ▪ Organisation ▪ Instrumente ▪ Netzwerk	▪ Alle sieben Fähigkeiten	▪ Hoher Ressourceneinsatz
Typus	▪ Größerer Mittelstand ▪ MNU	▪ KMU	▪ K(M)U	▪ KMU	▪ MNU

Abbildung 8: Forschungsergebnis 2.4 - Schutzmanagementkonfigurationen

		2.4 Schutzmanagementkonfigurationen				
		Networking Enforcers	**Lone Fighters**	**Procastinators**	**Secret Keepers**	**Fully integrated Anti-Counterfeiters**
Strategien	**Dominant**	▪ Sanktion ▪ Prävention	▪ Sanktion ▪ Prävention	▪ Prävention	▪ Geheimhaltung	▪ Sanktion ▪ Prävention
	Geringere Relevanz	▪ Duldung ▪ Geheimhaltung	▪ Duldung ▪ Geheimhaltung	▪ Geheimhaltung ▪ Kooperation	▪ Sanktion ▪ Kooperation	▪ Duldung ▪ Geheimhaltung
Instrumente	**Dominant**	▪ Juristische ▪ Managementorientierte	▪ Juristische ▪ Managementorientierte	▪ Juristische	▪ Trade Secrets	▪ Juristische ▪ Managementorientierte ▪ Politische
	Geringere Relevanz	▪ Technische	▪ Politische ▪ Technische	▪ Politische ▪ Technische	▪ Politische ▪ Technische ▪ Managementorientierte	▪ Trade Secrets

[27] Für eine verbalisierte Darstellung vgl. Tabelle 8 im Anhang 2. Eine ausführliche Darstellung ist im Beitrag 6 zu finden.

Abbildung 9: Forschungsergebnis 2.5 - Erfolgsmessung und Branchenrelevanz



Das Bewertungsset der Fälschungskompetenz und Managementkonfiguration enthält acht Bewertungsdimensionen auf Kompetenzebene mit 18 Kriterien und zwei Bewertungsdimensionen für die Erfolgsmessung mit acht Kriterien. Das Fälschungsmanagement wird über acht Strategien und 15 Instrumente sowie dem Geschäftsmodell (sechs Kriterien) abgebildet. Die daraus erzielten Ergebnisse für die Forschungsfragen 3.3 bis 3.5 sind in den Abbildungen 10, 11 und 12 auf den Seiten 34 und 35 zusammengefasst.[28]

Es konnten sowohl bei Originalherstellern als auch bei Fälschern fünf signifikant unterschiedliche Konfigurationen aufgedeckt werden. Zentrales konzeptionell-theoretisches Ergebnis dieses Dissertationsprojekts ist somit die Verbindung von Kompetenzen, Strategien und Instrumenten zu Managementkonfigurationen auf Basis des Konzeptes der strategischen Gruppen und des RBV/CBV. Für die Praxis wurde dadurch insgesamt eine Messmethodik entwickelt, welche die unternehmensinterne Kompetenzlage bewertet, diese mit (erweiterbaren) Strategien und Instrumenten verbindet und zur Leistungsmessung eingesetzt werden kann.

[28] Für eine verbalisierte Darstellung vgl. Tabelle 9 im Anhang 3. Eine ausführliche Darstellung ist im Beitrag 9 zu finden.

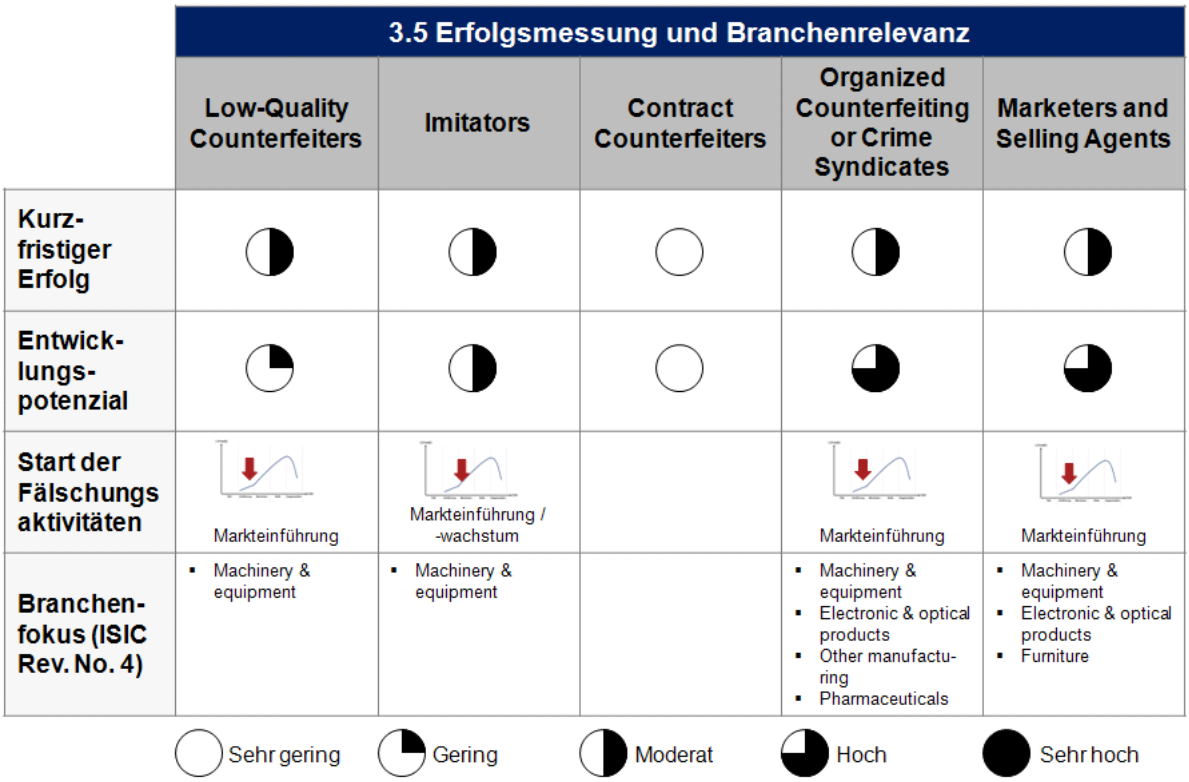
Abbildung 10: Forschungsergebnis 3.3 - Fälschertaxonomie

	3.3 Fälschertaxonomie				
	Low-Quality Counterfeiters	**Imitators**	**Contract Counterfeiters**	**Organized Counterfeiting or Crime Syndicates**	**Marketers and Selling Agents**
Stärken	▪ Identifikation ▪ Verwertung	▪ Identifikation ▪ Integration ▪ Verwertung ▪ Instrumente	▪ Identifikation ▪ Integration	▪ Alle	▪ Identifikation ▪ Verschleierung ▪ Verwertung ▪ Instrumente
Schwächen	▪ Strategie ▪ Netzwerk ▪ Konfiguration	▪ Verschleierung	▪ Instrumente ▪ Netzwerk ▪ Verschleierung ▪ Strategie	▪ Keine bis auf Transformation	▪ Transformation
Geschäfts-modell	▪ Breites Angebot an Marken-fälschungen	▪ Profitables Wachstum und Weiterentwicklung von (il-)legalen Imitationen, gezielte Teil-zeitfälschungen	▪ Auftragsfertigung für das Fälschernetzwerk und Kunden von Originalherstellern	▪ Organisation des gesamten Fälschungs-netzwerks	▪ Distribution von Fälschungen, Absatzorganisation

Abbildung 11: Forschungsergebnis 3.4 - Fälschungsmanagementkonfigurationen

		3.4 Fälschungsmanagementkonfigurationen				
		Low-Quality Counterfeiters	**Imitators**	**Contract Counterfeiters**	**Organized Counterfeiting or Crime Syndicates**	**Marketers and Selling Agents**
Strategie	**Dominant**	▪ Vorgetäuschter Originalhersteller	▪ Technologie-orientierung ▪ Langfristige Entwicklung	▪ Langfristige Entwicklung	▪ Vorgetäuschter Originalhersteller ▪ Geheimhaltung	▪ Vorgetäuschter Originalhersteller ▪ Geheimhaltung
	Geringere Relevanz	▪ Infiltration der legalen Wert-schöpfungskette ▪ Technologie-akquise	▪ Infiltration der legalen Wert-schöpfungskette	▪ Infiltration der legalen Wert-schöpfungskette	▪ Technologie-orientierung ▪ Langfristige Entwicklung	▪ Technologie-orientierung ▪ Infiltration der legalen Wert-schöpfungskette
Instrumente	**Dominant**	▪ Onlinedistribution ▪ Illegale Distribution ▪ Ansprache der Kunden des Originalherstellers	▪ Reverse Engineering ▪ Ansprache der Kunden des Originalherstellers	▪ Ansprache der Kunden des Originalherstellers, ▪ Reverse Engineering	▪ Onlinedistribution ▪ Ansprache der Kunden des Originalherstellers ▪ Illegale Distribution, ▪ Standortverlegungen	▪ Onlinedistribution ▪ Illegale Distribution ▪ Ansprache der Kunden des Originalherstellers
	Geringere Relevanz	▪ Headhunting ▪ Industriespionage	▪ Industriespionage, Standortverlegungen	▪ Industriespionage ▪ Standortverlegungen	▪ Industriespionage ▪ Headhunting	▪ Industriespionage ▪ Headhunting

Abbildung 12: Forschungsergebnis 3.5 - Erfolgsmessung und Branchenrelevanz



4.2 Limitationen und Implikationen

Die vorliegende kumulative Dissertation hat sich mit einem in der (wirtschafts-)wissenschaftlichen Literatur nur wenig diskutierten und konzeptionalisierten Untersuchungsgegenstand auseinandergesetzt und stellt die bis dato umfassendste Auseinandersetzung mit der Fälschungsthematik dar.

Mit dem gewählten Forschungsgegenstand und dem hierfür erarbeiteten Forschungsdesign sind einige Einschränkungen, bedingt durch den hohen Neuheitsgrad, zu nennen. Aufgrund der erstmaligen Untersuchung der Thematik in diesem Umfang ist die kumulative Dissertation als stark explorativ zu bewerten und basiert ausschließlich auf Primärerhebungen. Dadurch ist eine Wiederholung mit dem gleichen Personenkreis zur Überprüfung der Ergebnisse nur schwierig möglich. Auch konnten keine Sekundärerhebungen mit Informationen aus Datenbanken integriert werden, da diese nicht existieren. Während die Informationen in Teil 2 (Schutzmanagement) direkt abgefragt werden konnte, basiert Teil 3 (Fälschungsmanagement) auf einer indirekten Erhebung bei Bekämpfungsexperten. Dies zeigt sich vor allem bei der eingeschränkten Stabilität der Clusterlösungen und hohen Standardabweichungen sowie Unterschieden zwischen individueller Experteneinschätzung und statistischer interner Konsistenz einzelner Teilindizes in Beitrag 9. Im Gegensatz zu der innerhalb des verarbeitenden sachgutorientierten Gewerbes breit angelegten Samplestruktur in dieser Studie sollten auch branchenspezifische Untersuchungen angestellt werden, um die Standardabweichungen bei

den Strategien und Instrumenten zu verringern. Durch die Wahl einer kompetenzorientierten Sichtweise und Indexbildung für die Kompetenzen ist ein hohes Aggregationsniveau gegeben, welches in Folgeuntersuchungen nach Möglichkeit verringert werden sollte. Hierfür sollten auch unterschiedliche Kundengruppen und Ländervariablen zur Erhöhung der Aussagefähigkeit in Form von Mehrebenenanalysen integriert werden, da die vorliegende Untersuchung die Industrieebene bzw. das Appropriierungsregime, zur Fokussierung der Gruppen- und Unternehmensbetrachtung, als konstant betrachtet.

Für die weitere (wirtschaftswissenschaftliche) Forschung ergeben sich inhaltliche und methodische Implikationen: Die Analyse des Phänomens Marken- und Produktpiraterie erfordert eine umfassende Betrachtung anhand verschiedener Dimensionen welche den Aufbau von Bedrohungsszenarien und Risikoanalysen ermöglichen. Empfehlungen für Schutzstrategien und -instrumente basieren bisher ausschließlich auf Häufigkeitsauszählungen ohne die hierfür erforderlichen Kompetenzen, Managementkonfigurationen oder Performancemaße in Untersuchungen zu integrieren. Deshalb sollte die Konzeptionalisierung von Schutz- und Fälschungsmanagement vorangetrieben werden, damit die Akteure für empirische Untersuchungen modelliert werden können. Die vorliegende Studie demonstriert, dass sich die Akteure auf beiden Seiten der Marken- und Produktpiraterie sowohl bei den Kompetenzen als auch zwischen verschiedenen Schützern und Fälschern signifikant unterscheiden. Daraus folgt, dass alle bisherigen Empfehlungen in ihrem Anwendungskreis in Frage gestellt werden können. Die erarbeiteten Konfigurationen implizieren darüber hinaus eine Verbindung zwischen Erfolg, Kompetenzausstattung und den verfolgten Strategien bzw. den angewendeten Instrumenten. Zukünftige Forschungsarbeiten sollten sich diesem Zusammenhang verstärkt annehmen. Auf Basis der gewonnenen Erkenntnisse ist auch eine Auseinandersetzung mit dem Schutzpotential von Dienstleistungen und der illegalen Imitation von Dienstleistungen durch Fälscher eine wichtige zukünftige Forschungsrichtung.

Aus methodischer Sicht sieht sich empirische Forschung zu Schützern und Fälschern mit einer limitierten Literaturbasis und dem Problem der mangelnden Informationsverfügbarkeit konfrontiert. Ein sequenzielles Mixed-Methods Forschungsdesign hat sich in diesem stark explorativen Forschungsfeld als sehr hilfreiche Vorgehensweise erwiesen. Damit können Forscher in qualitativen Phasen die Datenqualität kontrollieren und eine fundierte Basis für die anschließende quantitative Erhebungsphase schaffen. Die qualitativen Einblicke können mit den quantitativen Resultaten angereichert, verglichen und kontrastiert werden. Aus konzeptioneller Sicht wird aufgezeigt, dass die Kombination des Konzeptes der strategischen Gruppen mit dem ressourcen-/kompetenzbasierten Ansatz eine sehr hilfreiche theoretische Verbindung im Rahmen dieser Untersuchung darstellt und auf weitere explorative Fragestellungen übertragen werden könnte.

Für die Unternehmenspraxis ergeben sich neben den bereits in den einzelnen Beiträgen vorzufindenden Empfehlungen weitere Implikationen. Sowohl Schützer als auch Fälscher weisen signifkant unterschiedliche Kompetenzenkombinationen auf mit signifkanten Auswirkungen auf Strategien, Instrumente, den kurzfristigen Erfolg und die längerfristigen Entwicklungspotenziale bzw. die Übertragung auf andere Auseinandersetzungen. Es konnte gezeigt werden, dass sich Fälscher zu professionell agierenden Unternehmen mit Managementkapazitäten entwickelt haben, welche in arbeitsteiligen Strukturen organisiert sind. Dennoch weisen diese unterschiedliche Stärken und Schwächen auf, welche für Bekämpfungsbemühungen beachtet werden sollten. Um die unterschiedlichen Wettbewerbspositionen besser verstehen zu können, ist Originalhersteller anzuraten, dass sich diese selbst, andere Wettbewerber und vor allem Fälscher evaluieren. Eigene Schwachpunkte sollten durch spezifischen Kompetenzaufbau verringert werden und identifizierte Angriffsflächen bei Fälschern gezielt für die Bekämpfung genutzt werden. Insgesamt stellen Präventions- und Sanktionsstrategien in Kombination mit juristischen und managementorientierten Instrumenten die dominante und erfolgversprechendste Lösung dar. Diese sollte jedoch durch Netzwerkaktivitäten unterstützt werden. Technische Schutzinstrumente nehmen eine untergeordnete Rolle ein. Eine vollständige Geheimhaltung und der Verzicht auf Schutzrechte sind dagegen nicht zu empfehlen. Politische Instrumente scheinen nur für Unternehmen mit einer entsprechenden Größe möglich zu sein. Von diesen könnten auch klein- und mittelständische Unternehmen profitieren oder selbst durch Kooperationen und Netzwerkbildung kompensieren. Es hat sich gezeigt, dass eine Fokussierung auf eine kleine Auswahl an Instrumenten bei den erfolgreichsten Unternehmen dominiert.

Aus staatlicher Perspektive bleibt festzuhalten, dass das Schutzmanagement bei einzelnen Unternehmenstypen erfolgreich sein kann und sich dynamisch entwickelt. Allerdings ist der Erfolg insgesamt moderat, so dass flankierende staatliche Maßnahmen, Public-Private Partnerships und die Verbandsarbeit verstärkt werden sollten, da Fälscher stark in Ländern mit schwachen Appropriierungsregimes vertreten sind.

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Anhänge

Anhang 1

Tabelle 7: Reliabilitäts- und Validitätssicherung in Phase 2

Kriterium		Forschungs-design	Methoden	Datensammlung	Datenanalyse	Ergebnisse
Reliabilität	Trans-kription	Transkripti-onsregeln	Ergebnis-zusammen-fassung	40 Interviewer; Schu-lung	Doktorand; Gruppendis-kussionen;	n/a
	Kodierung	n/a	n/a	Memos	Kodierregeln; Memos	Dokumentation
	Kommuni-kation	Keine Teamkodierung; Forschungskolloquien zur Diskussion der Inhalte				
	Überprüfung	Prozessdo-kumentation	n/a	Fallstudien	Fünf Durchläufe	Fallstudien
Validität	Triangu-lation	Themen	Experten-in-terviews & Fallstudien	Multiakteurs-, -indu-strien- & -funktions-perspektive	Kategorien-system	Fallstudien; in-terne Doku-mente; Trans-kription
	Externe Überprüfung	n/a	n/a	Freigabe der Trans-kripte durch Experten	Follow-up Anrufe	n/a
	Nachvoll-ziehbarkeit	Literatur-analyse	Kodifizierte Verfahren	Samplebeschreibung	Kodifiziertes Verfahren	Ergebnisbe-schreibung
	Researcher Bias	Literatur-analyse	Interviewer ≠ Forscher	Interviewer ≠ For-scher	Kodifiziertes Verfahren	n/a
	Kontradiktio-nen	n/a	n/a	Zwei Gesprächsleit-fäden; follow-up Anrufe; Fallstudien	Forschungs-kolloquien	Forschungs-kolloquien
	Zeitstabilität	Langer Untersuchungszeitraum und verschiedene Teilprojekte				
	Feedback	Experten für qualitative Methoden; Peers; Präsentationen; Expertengespräche				
	Externes Feedback	Nachwuchs-workshops	Kolloquien	Kolloquien	Kolloquien	Konferenzen

Anhang 2

Tabelle 8: Forschungsergebnisse 2.3 bis 2.5 - Schutzmanagementkonfigurationen

Forschungs-frage	Ergebnis

2.3 Schützer-klassifikation	- „*Networking Enforcers*“
	  - Stärken: Strategie, Netzwerk und Reporting
	  - Schwächen: Instrumente, Evaluation
	  - Typus: Größerer Mittelstand und MNU
	- „*Lone Fighters*“
	  - Stärken: Strategie, Instrumente
	  - Schwächen: Evaluation, Organisation, Netzwerk
	  - Typus: KMU
	- „*Procrastinators*“
	  - Stärken: Evaluation
	  - Schwächen: Information, Organisation, Instrumente, Netzwerk
	  - Typus: KMU
	- „*Secret Keepers*”
	  - Stärken: -
	  - Schwächen: alle sieben Fähigkeiten
	  - Typus: Kleiner Mittelstand
	- „*Fully integrated Anti-Counterfeiters*”
	  - Stärken: alle sieben Fähigkeiten

	- Schwächen: Hoher Ressourceneinsatz - Typus: MNU
2.4 Management konfigura-tionen	- „*Networking Enforcers*“ - Dominante Strategie: Sanktion, Prävention - Dominante Instrumente: juristische und managementorientierte Instrumente - Geringere Relevanz Strategie: Duldung, Geheimhaltung - Geringere Relevanz Instrumente: Technische Lösungen - „*Lone Fighters*“ - Dominante Strategie: Sanktion, Prävention - Dominante Instrumente: juristische und managementorientierte Instrumente - Geringere Relevanz Strategie: Duldung, Geheimhaltung - Geringere Relevanz Instrumente: Politische und technische Lösungen - „*Procrastinators*“ - Dominante Strategie: Prävention - Dominante Instrumente: juristische Instrumente - Geringere Relevanz Strategie: Geheimhaltung, Kooperation - Geringere Relevanz Instrumente: Politische und technische Lösungen - „*Secret Keepers*” - Dominante Strategie: Geheimhaltung - Dominante Instrumente: Trade Secrets - Geringere Relevanz Strategie: Sanktion, Kooperation - Geringere Relevanz Instrumente: Technische, politische und management-orientierte Lösungen - „*Fully integrated Anti-Counterfeiters*” - Dominante Strategie: Sanktion, Prävention - Dominante Instrumente: juristische, managementorientierte und politische Instrumente - Geringere Relevanz Strategie: Duldung, Geheimhaltung - Geringere Relevanz Instrumente: Trade Secrets
2.5 Erfolgs-messung, Branchen-relevanz	- *Networking Enforcers*“ - Kurzfristiger Erfolg: moderat - Entwicklungspotenzial: hoch - Start der Bekämpfung: Markteinführung - Branchenfokus: Machinery & equipment, electrical equipment - „*Lone Fighters*“ - Kurzfristiger Erfolg: moderat - Entwicklungspotenzial: moderat - Start der Bekämpfung: Markteinführung / -wachstum - Branchenfokus: Machinery & equipment, furniture - „*Procrastinators*“ - Kurzfristiger Erfolg: gering - Entwicklungspotenzial: gering - Start der Bekämpfung: Marktwachstum - Branchenfokus: Machinery & equipment - „*Secret Keepers*” - Kurzfristiger Erfolg: (sehr) gering - Entwicklungspotenzial: gering - Start der Bekämpfung: Marktwachstum - Branchenfokus: Machinery & equipment, electronic & optical products - „*Fully integrated Anti-Counterfeiters*” - Kurzfristiger Erfolg: moderat - Entwicklungspotenzial: hoch - Start der Bekämpfung: F&E - Branchenfokus: Electronic & optical products, wearing apparel

Anhang 3

Tabelle 9: Forschungsergebnisse 3.3 bis 3.5 - Fälschungsmanagementkonfigurationen

Forschungs-frage	Ergebnis
3.3 Fälscher-klassifikation	- „*Low-Quality Counterfeiters*“ - Stärken: Identifikation, Verwertung - Schwächen: Strategie, Netzwerk, Transformation - Geschäftsmodell: Breites Angebot an Markenfälschungen - „*Imitators*“ - Stärken: Identifikation, Integration, Verwertung, Instrumente - Schwächen: Verschleierung - Geschäftsmodell: Profitables Wachstum und Weiterentwicklung von (il-)legalen Imitationen, gezielte Teilzeitfälschungen - „*Contract counterfeiters*“ - Stärken: Identifikation, Integration - Schwächen: Instrumente, Netzwerk, Verschleierung, Strategie - Geschäftsmodell: Auftragsfertigung für das Fälschernetzwerk und Kunden von Originalherstellern - „*Organized Counterfeiting or Crime Syndicates*” - Stärken: Alle - Schwächen: keine bis auf Transformation - Geschäftsmodell: Organisation des gesamten Fälschungsnetzwerks - „*Marketers and selling agents*” - Stärken: Identifikation, Verschleierung, Verwertung, Instrumente - Schwächen: Transformation - Geschäftsmodell: Distribution von Fälschungen, Absatzorganisation
3.4 Management-konfigurationen	- *„Low-Quality Counterfeiters*“ - Dominante Strategie: Vorgetäuschter Originalhersteller - Dominante Instrumente: Onlinedistribution, illegale Distribution, Ansprache der Kunden des Originalherstellers - Geringere Relevanz Strategie: Infiltration der legalen Wertschöpfungskette, Technologieakquise - Geringere Relevanz Instrumente: Headhunting, Industriespionage - „*Imitators*“ - Dominante Strategie: Technologieorientierung, Langfristige Entwicklung - Dominante Instrumente: Reverse Engineering, Ansprache der Kunden des Originalherstellers - Geringere Relevanz Strategie: Infiltration der legalen Wertschöpfungskette - Geringere Relevanz Instrumente: Industriespionage, Standortverlegungen - „*Contract counterfeiters*“ - Dominante Strategie: Langfristige Entwicklung - Dominante Instrumente: Ansprache der Kunden des Originalherstellers, Reverse Engineering - Geringere Relevanz Strategie: Infiltration der legalen Wertschöpfungskette - Geringere Relevanz Instrumente: Industriespionage, Standortverlegungen - „*Organized Counterfeiting or Crime Syndicates*” - Dominante Strategie: Vorgetäuschter Originalhersteller, Geheimhaltung - Dominante Instrumente: Onlinedistribution, Ansprache der Kunden des Originalherstellers, illegale Distribution, Standortverlegungen - Geringere Relevanz Strategie: Technologieorientierung, langfristige Entwicklung - Geringere Relevanz Instrumente: Industriespionage, Headhunting - „*Marketers and selling agents*” - Dominante Strategie: Vorgetäuschter Originalhersteller, Geheimhaltung - Dominante Instrumente: Onlinedistribution, illegale Distribution, Ansprache der Kunden des Originalherstellers - Geringere Relevanz Strategie: Technologieorientierung, Infiltration der legalen Wertschöpfungskette - Geringere Relevanz Instrumente: Industriespionage, Headhunting

3.5 Erfolgsmessung Branchen-relevanz	- „*Low-Quality Counterfeiters*“
	  - Kurzfristiger Erfolg: moderat bis gering
	  - Entwicklungspotenzial: gering bis moderat
	  - Start der Fälschungstätigkeit: Markteinführung
	  - Branchenfokus: Electrical equipment; Machinery & equipment
	- „*Imitators*“
	  - Kurzfristiger Erfolg: moderat bis hoch
	  - Entwicklungspotenzial: moderat bis hoch
	  - Start der Fälschungstätigkeit: Markteinführung / -wachstum
	  - Branchenfokus: Machinery & equipment
	- „*Contract counterfeiters*“
	  - Kurzfristiger Erfolg: sehr gering
	  - Entwicklungspotenzial: sehr gering
	  - Start der Fälschungstätigkeit: -
	  - Branchenfokus: -
	- „*Organized Counterfeiting or Crime Syndicates*”
	  - Kurzfristiger Erfolg: moderat bis hoch
	  - Entwicklungspotenzial: hoch
	  - Start der Fälschungstätigkeit: Markteinführung
	  - Branchenfokus: Electronic & optical products, machinery & equipment, other manufacturing, pharmaceuticals
	- „*Marketers and selling agents*”
	  - Kurzfristiger Erfolg: moderat
	  - Entwicklungspotenzial: moderat bis hoch
	  - Start der Fälschungstätigkeit: Markteinführung
	  - Branchenfokus: Machinery & equipment, furniture, Electronic & optical products

Teil 1:

Problem und Phänomen Marken- und Produktpiraterie

- Beitrag 1: Dimensionen der Betrachtung von Produkt- und Markenpiraterie
- Beitrag 2: Piraterie, Imitation, Fälschung – Ansätze zur Definition

Teil 2:

Theorie und Empirie

unternehmerischer Anti-Counterfeiting-Systeme

- Beitrag 3: Pirateriebekämpfungsmanagement – Strategie und Organisation
- Beitrag 4: Schutzinstrumente zur Pirateriebekämpfung
- Beitrag 5: Ansatzpunkte des Competence-Based View zur Bekämpfung von (Produkt-)Piraterie
- Beitrag 6: Anti-counterfeiting management configurations and their performance implications: Exploring strategies, instruments, and competencies

Configurations of anti-counterfeiting management and their performance implications: Exploring strategies, instruments, and competencies

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Keywords:

Intellectual Property Management, Anti-Counterfeiting, Resource/Competence Based View of the Firm, Strategic Groups, Configurations, Mixed-Methods Research.

JEL classification: M1, M16, O34

Highlights

- Anti-counterfeiting management is investigated
- Strategies, instruments, and competencies of anti-counterfeiting management are presented
- Anti-counterfeiting management configurations are identified and linked to performance measures

Abstract

Counterfeiting has become a multi-billion industry, but insights into anti-counterfeiting are scarce. By combining the resource-based view of the firm and the concept of strategic groups, this study explores anti-counterfeiting management (ACM) configurations. Specifically, three research questions are addressed. (1) How can constructs that constitute ACM be identified at a corporate level? (2) Which ACM configurations can be empirically distinguished? (3) How do different ACM configurations perform and how are they linked to environmental variables? To answer these questions, an explorative two-stage mixed-methods research design is applied. Phase 1 deduces a framework for ACM using qualitative content analysis of 230 expert interviews, 70 case studies, and internal information of intellectual property owners, service providers, governmental authorities, and research institutions. In phase 2, hierarchical and partitioning cluster procedures are used to analyze survey data from 176 anti-counterfeiting experts. As a result, five configurations are identified, described, and assessed. The results indicate significant differences between anti-counterfeiting capabilities, strategies, and instruments.

1. Introduction

Counterfeiters place pressure on R&D-intensive firms and brand owners by illegally benefiting from said R&D while simultaneously reducing or eliminating the profitability of intellectual property investments. Intellectual property rights, especially in developing and transition countries, do not hinder counterfeiters (Chaudhry/Zimmerman 2009; OECD 2008; Yang/Kuo 2008). Moreover, necessary anti-counterfeiting efforts increase the cost of

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additional protection instruments, costs that are borne by rights holders. Counterfeits can also confuse or harm consumers by undermining the consumers' trust in brands, as is often the case in the pharmaceutical industry. Society itself even suffers from increased unemployment and decreased tax revenue (Lybecker 2007; Yao 2005; Hopkins et al. 2003). The opportunity to gain profits without R&D in weak appropriability regimes has allowed the volume of counterfeiting that is driven by sellers and buyers to increase considerably over the past decade (Stumpf/Chaudhry 2010). Trade of counterfeited products is estimated to account for one to seven percent of the world trade volume and has evolved from a simplistic and opportunistic activity to a professional multi-billion dollar business (Chaudhry 2006; Frontier 2011; ICC 2007; OECD 2008, 2009; Paradise 1999; Staake/Fleisch 2008). Counterfeiting is defined as "[a]ny unauthorized manufacturing of goods whose special characteristics are protected as intellectual property (trademarks, patents and copyrights) […]" (Cordell et al. 1996, p. 41) and can be considered an alternative strategy to innovation and legal imitation (Chaudhry/Zimmerman 2009; Johns 2009; Phillips 2007; Schnaars 1994). All of these strategies may lead to a competitive advantage, forcing companies to rethink their strategic behaviors (Lee et al. 2000).

Given this development, anti-counterfeiting strategies and instruments arise as new challenges for strategic management, but formal academic research regarding this issue is limited (Staake et al. 2009). To address this shortcoming, the present study focuses on the protection of rights holders against the intentional illegal violation of intellectual property rights by counterfeiters. Therefore, the relevant underlying capabilities and competencies for the development of an anti-counterfeiting management (ACM) taxonomy are explored at a corporate level. The taxonomical approach combines a resource-based view of the firm (Barney/Arikan 2001; Crook et al. 2008; Newbert 2007) and the strategic group concept (Hunt 1972) into a configurative design. Multiple company-specific internal variables are linked to outcome measures to analyze anti-counterfeiters as organizational entities (Ketchen et al. 1997; Ketchen/Shook 1996; Ketchen et al. 1993; Meyer et al. 1993).

First, a review of ACM-related literature provides a starting point for the development of a conceptual framework. Second, an explorative mixed-methods approach (Creswell/Plano Clark 2011), based on qualitative content analysis of qualitative information derived from 213 expert interviews and quantitative findings from survey research with 176 anti-counterfeiting experts, is applied. Third, information concerning the strategies and instruments of different types of anti-counterfeiters is presented. To summarize, the research agenda for this explorative study consists of three specific research questions:

RQ 1 *How can ACM configurations constructs be identified at a corporate level?*

RQ 2 *Which ACM configurations can be determined based on empirical findings?*

RQ 3 How do different ACM configurations perform and how are they linked to environmental variables?

The remaining article is structured as follows: A literature review of ACM is presented in section 2. The theoretical background and the two-stage research design are provided in section 3. In section 4, the mixed-methods research methodology is described. Phase 1 includes qualitative methods for selecting input variables and relevant dimensions as well as the concept of the ACM framework. In phase 2, quantitative techniques to derive configurations for the measurement of anti-counterfeiters are applied. Section 5 presents the taxonomy, explores related variables, and discusses the findings. The article concludes with implications for academic research, managerial practice, and governmental policy in section 6.

2. Literature review

The subsequent review includes selected empirical studies and conceptual articles concerning ACM that address anti-counterfeiters' characteristics, strategies, and operations. The selection of works for this review was driven by keywords including "rights holder," "anti-counterfeiter," "anti-counterfeiting," "trademark piracy," and "product piracy" in combination with "strategy," "instrument," "process," "organization," "resource," "competence," "typology," "configuration," and "taxonomy." Electronic journal databases for reviewed journals (EBSCOhost Business Source Premier and ScienceDirect) are complemented with textbook passages and selected practitioner publications in the English language. Three main areas of conceptual and empirical research are identified: (1) literature on anti-counterfeiting strategies that aims to provide generic recommendations to rights holders; (2) remarks on anti-counterfeiting instruments that elaborate on their selection and application; (3) organizational structures and processes designed to support protection.

(1) Conceptually, anti-counterfeiting strategies can target different stakeholders (e.g., consumers and counterfeiters), can differ in terms of strategic orientation, and can vary between action and reaction. In the 1980s, Kaikati/LaGarce 1980 and Harvey/Ronkainen 1985 were among the first scholars to discuss anti-counterfeiting strategies. Their basic recommendations include prosecution, withdrawal, warning, and "hands-off," all of which are drawn from the observation of companies. Harvey 1987 recommends a prevention strategy that includes building awareness of the problem, actions to foster a company's organizational structure, and assertion in terms of prosecution. Olsen/Granzin 1992, 1993 emphasize the importance of cooperation between rights holders and channel members with an investigation of survey results from 92 telephone respondents. Staake/Fleisch 2008 show that cooperation with external stakeholders is a common practice for successful companies. Chaudhry/Walsh 1996 highlight the importance of both the existing legal framework and technical anti-counterfeiting labeling tactics. Shultz/Saporito 1996 develop an

environmentally oriented approach to anti-counterfeiting strategy formulation. Active protection and prosecution strategies are derived from product differentiation and the level of a country's WTO and TRIPS commitment. Hung 2003 evaluates these strategies for the People's Republic of China based on interviews and concludes that their efficacy is limited. Country size, the large number of counterfeiters, legal problems, and insufficient governmental enforcement are identified as major obstacles. Therefore, active corporate collaboration with governmental authorities is needed. Jacobs et al. 2000 propose protective responses to the actions of counterfeiters. The strategic options include several different categories, ranging from preventive purposes like communication to more prosecution-oriented legal aspects. Green/Smith 2002 and Sonmez/Yang 2005 illustrate the practical problems of anti-counterfeiting using case studies of alcoholic beverages and merchandising. Yang et al. 2004 conduct a survey with 51 companies and follow-up interviews to deduce ten anti-counterfeiting strategies and the corresponding instruments. They develop a taxonomy of proactive, networking, and defensive strategies to discuss the particular (dis-) advantages of each solution. They highlight the importance of a serious analysis when coping with counterfeiting. Anand/Galetovic 2004 recommend a market- and competition-oriented approach. These strategies can be selected from a continuum ranging from defending a company's core assets to the acceptance of the counterfeiter's business success. Firth 2006 advocates both offensive and defensive actions to foster prevention. Using the theory of reasoned action, Amine/Magnusson 2007 integrate the perceptions of IP owners, consumers, and counterfeiters to develop four marketing-oriented anti-counterfeiting strategies. The authors use the level of (non-) deceptiveness, the profit potential, and the possible risks as well as the costs associated with counterfeiting for their approach. As generic solutions specifically target consumers, other stakeholders such as IP owners, and counterfeiters, the combination of several strategic approaches is needed (Staake/Fleisch 2008). Berman 2008 recommends the development of early warning signals, budgeting for ACM, demand-side strategies, and supply-side strategies. Schuh et al. 2009 present a method to develop ACM solutions derived from the TRIZ contradiction table to identify standard solution principles that combine anti-counterfeiting strategies and instruments. This approach uses game-theoretical considerations in structuring the competitive behavior of counterfeiters and rights-holders to identify anti-counterfeiting options within the legitimate value chain. Keupp et al. 2009, 2010 use thirteen case studies to explore best-practice strategies in intellectual property protection that limit the dependence on a country's legal system. These de facto strategies include technological specialization, secrecy, customer education, and internal and external networking. Learning processes are also characterized as an important precondition for successful ACM.

(2) In addition to the previously mentioned publications, Bush et al. 1989 discuss anti-counterfeiting instruments based on a survey of 103 companies separated into victims and non-victims of counterfeiting. They recommend a source-oriented approach that draws on political, legal, managerial, and technical actions to combat counterfeiters. Clark 2006 discusses several legal and managerial instruments to strengthen intellectual property protection. The importance of rigid enforcement is also highlighted. Three studies conceptually or empirically explore the efficacy of anti-counterfeiting strategies to demonstrate that combined governmental and corporate actions can improve anti-counterfeiting efficacy (Lybecker 2007, Yang/Fryxell 2009; Yang et al. 2006,). Based on survey results from 45 companies, Staake/Fleisch 2008 identify supply-chain security measures, secure distribution systems, and participation in relevant industry groups as essential instruments. Chaudhry et al. 2005 and Chaudhry/Zimmerman 2009 propose the application of protection instruments via a target-group-oriented approach. They distinguish between consumers, governmental authorities, distribution channels, international organizations, counterfeiters, and the rights holder itself. Performing an explorative study with interview-based data of 29 managerial reports, they identify the most and least effective anti-counterfeiting actions.

(3) Structural and procedural organizational questions are a frequently mentioned but less discussed element of ACM. Harvey 1988 proposes a team-oriented organizational structure that focuses on a counterfeit prevention task force in collaboration with product and surveillance teams. The interdisciplinary team composition is described as helpful to address the complex topic of counterfeiting. From a process-oriented perspective, Jacobs et al. 2004 describe six basic steps and one additional evaluation and feedback step for a counter-piracy strategy. They emphasize the importance of an early warning system, the determination of the extent of possible damages caused by counterfeiters, and a cost-benefit analysis of anti-counterfeiting measures. Staake/Fleisch 2008 stress the importance of well-defined anti-counterfeiting processes, monitoring activities, and reporting tools. Chaudhry/Zimmerman 2009 describe several steps for developing an anti-counterfeiting program. After having formulated the strategy and established adequate organizational structures, IP rights have to be registered and a monitoring system should be established. Anti-counterfeiting instruments have to be selected and both investigations and the fight against counterfeiters have to be conducted. Afterwards, an evaluation and feedback system able to respond to dynamic developments of the counterfeiting phenomenon needs to be implemented.

As the management literature review shows, a growing number of authors provide guidelines for anti-counterfeiting strategies and instruments (e.g., Chaudhry/Zimmerman 2009; Kaikati/LaGarce 1980; Keupp et al. 2009, 2010; Schuh et al. 2009; Shultz/Saporito 1996). The existing ACM literature does not precisely distinguish between strategies and

instruments nor does it treat both elements as the same type of protection. Organizational questions are less discussed. Based on the review, ACM can be defined as a collection of strategies, instruments, organizational structures, and underlying competencies of rights holders intended to protect existing legitimate markets against illegal counterfeiting before, at the time of, or after a new legal original product is introduced into the market. The relevant empirical studies use qualitative and quantitative approaches, such as case studies, expert interviews, and survey research. To date, there are no typologies or taxonomies that cluster anti-counterfeiters to strengthen the knowledge about counterfeiting. Table 1 summarizes the literature review.

Table 1: Elements of Anti-Counterfeiting Management

Dimensions	Foundation	Sources
	ACM strategy	
- Target: Stakeholder - Time: action, reaction - Behavior: defensive & offensive - Orientation: prevention, sanction, toleration, cooperation	*Theoretical*: Game-Theory, TRIZ, theory of reasoned action, resource based view, market based view *Empirical*: expert interviews, case studies, survey research	Amine/Magnusson 2007; Anand/Galetovic 2004; Berman 2008; Firth 2006; Harvey 1987, 1988; Harvey/Ronkainen 1985; Hung 2003; Jacobs et al. 2000; Kaikati/LaGarce 1980; Keupp et al. 2009, 2010; Lybecker 2007; Olsen/Granzin 1992, 1993; Staake/Fleisch 2008; Schuh et al. 2009; Yang/Fryxell 2009; Yang et al. 2006; Yang et al. 2004
	ACM instruments	
- Source: managerial, legal, technical, political, - Target: group specific	*Theoretical*: resource based view, market based view *Empirical*: Survey research, expert interviews, case studies	Bush et al. 1989; Chaudhry et al. 2005; Chaudhry/Zimmerman 2009; Clark 2006; Hung 2003; Lybecker 2007; Staake/Fleisch 2008; Yang/Fryxell 2009; Yang et al. 2006; Yang et al. 2004
	ACM organization	
- Structure - Process	*Theoretical*: - *Empirical*: expert interviews, case studies	Chaudhry/Zimmerman 2009; Harvey 1988; Jacobs et al. 2000; Staake/Fleisch 2008

Nevertheless, the current body of literature provides insights into important ACM issues. To combat counterfeiting, companies can choose between several strategic approaches, such as sanctions, prevention, toleration, and cooperation with competitors or counterfeiters. The definition of anti-counterfeiting approaches is based on a process-oriented perspective, starting with intelligence generation, target definition, strategy formulation, structural and procedural organization, instrument selection, monitoring, and evaluation.

There is no link between companies and underlying capabilities, competencies, or performance measures. Anti-counterfeiting capabilities are only loosely mentioned in terms of production, technology, or distribution. Thus, it is not clear whether a company is able to perform individual strategies or implement certain instruments at all. To further explore ACM firm performance, an integrated multidimensional approach is needed. After presenting the theoretical background in section 3, a corresponding conceptual framework is developed in

more detail in section 4. To conclude, the following propositions are drawn from the literature review to address RQ1:

P 1.1 Anti-Counterfeiters can be described by their internal organizational structures.

P 1.2 ACM consists of specific strategies and instruments.

P 1.3 Anti-counterfeiters can be further described by their individual set of competencies in ACM.

3. Theoretical background

The conceptual framework is derived from three main sources. (1) The propositions from the literature review are used to develop a basic understanding of the phenomenon. (2) To complement these insights, a foundation based on configurations research is built. (3) A mixed-method research approach using qualitative and quantitative data further explores corporate ACM.

3.1 Research in configurations

The term organizational configuration "*denotes any multidimensional constellation of conceptually distinct characteristics that commonly occur together*" (Meyer et al. 1993, p. 1175) in terms of organizational strategies, structures, and processes (Ketchen et al. 1993; Miller 1996). Configurations are a common element of organizational analysis and strategy research (Carper/Snizek 1980; Ketchen et al. 1997; McKelvey 1982; Rich 1992). They can arise from theoretically developed deductive typologies, such as Mintzberg's 1979 distinction between organizational structures and the organizational types of Miles/Snow 1978, or they can be empirically derived inductive taxonomies, such as that of Galbraith/Schendel 1983 concerning strategy types or the analysis of Homburg et al. 2008 concerning the interface between marketing and sales. Both approaches can be valuable and even complementary when describing organizational configurations. Thus, a configurational approach takes a systematic and holistic view via the overall patterns of multiple variables on organizational and strategic issues of ACM as a complex phenomenon. The effects of configurations are typically identified by the relationship to one or more outcome variables, such as performance indicators (Ketchen et al. 1997). Contrary to contingency theory, configurational inquiry facilitates insights into the equifinality of outcome achievement by multiple configurations and abandons the view of one optimal equilibrium configuration (Fiss 2007). Basically, configurations are studied at the individual, group, organizational, industry, and environmental levels (Ketchen et al.1997). With respect to research in strategic management, three main levels of analysis exist: the (1) industry, (2) strategic group, and (3) firm levels (Short et al. 2007; Short et al. 2003a, b).

(1) At the industry level, the impact of industry membership on firm performance (which is influenced by market structure and other elements such as industry concentration, growth,

and entry barriers) is analyzed in the classical industrial organization literature (Bain 1956, 1959; Schmalensee 1985). For strategic management, industry characteristics as environmental factors should be analyzed to understand firm performance in terms of strategic perspectives and actions (Slevin/Covin 1997; Sutcliffe/Huber 1998). Such analysis can include complexity, regulatory changes, and rivalry (Cool/Dierickx 1993; Reger et al. 1992; Wiseman/Bromiley 1996; Zajac/Bazerman 1991). Several studies show that industry effects play an important role in determining firm performance in terms of profitability (Chang/Singh 2000; Mauri/Michaels 1998; McGahan/Porter 1997; Rumelt 1991).

(2) The concept of strategic groups (Hunt 1972) analyzes and characterizes the group structures of firms that are homogeneous in terms of goals, resources, and assumptions for pursuing strategies within the same industry (Cool/Schendel 1987, 1988; Porter 1979, 1980, 1985; Reger/Huff 1993; Thomas/Venkatraman 1988). Mobility barriers and the associated costs determine the ease of group entry and exit (Caves/Porter 1979). These barriers can be categorized as market-related strategies, industry, and firm characteristics (McGee/Thomas 1986). Companies cannot easily shift group membership because of the associated risk of high investments for the development of new skills and products, which may lead to lower profitability without the security of increased revenues (Mascarenhas/Aaker 1989). The relationship between these group structures and firm performance is a common topic for empirical research and is used as basis for classification (Cool/Schendel 1987, 1988; Fiegenbaum et al. 1996; Fiegenbaum/Thomas 1990). Staake/Fleisch 2008 and Staake et al. 2011 refer to this concept to develop a classification of counterfeiters.

(3) At a firm level, an individual company's or a business unit's resources, capabilities, and routines provide the basic elements for superior performance (Barney/Arikan 2001; Crook et al. 2008; Newbert 2007). Although not being completely undisputable (Sanchez 2008), resources and consequently capabilities should be valuable to customers, rare to competitors, and difficult to imitate or substitute to generate a competitive advantage (Barney 1991, 1995; Peteraf 1993). From a static perspective, the differences of firms are derived from their abilities to acquire and deploy their (core) competencies (Amit/Shoemaker 1993; Barney 1991; Dierickx/Cool 1989; Grant 1991; Mahoney/Pandian 1992; Prahalad/Hamel 1990; Rumelt 1991; Wernerfelt 1984). From a dynamic perspective, a firm has to integrate, reconfigure, gain, and release resource and (core-) competence configurations to sustain a competitive advantage (Eisenhardt/Martin 2000; Grant 2008; Helfat et al. 2007; Henderson/ Cockburn 1994; Teece et al. 1997). Moreover, appropriability regimes as environmental factors determine advantages for innovators, legal imitators, and illegal counterfeiters (Teece 1986, 2000, 2009). Besides (1) and (2), configurational studies from a resource perspective can be found in the broad field of strategic management. For example, Gruber et al. 2010 conduct an exploratory study on technology ventures using (in-) tangible resources and

capabilities to develop a taxonomy for sales and distribution, while Fang et al. 2011 analyze the effects of customer and innovation asset configuration strategies to analyze resource performance relationships.

These three concepts vary in scope between industry and firm, with strategic groups as an intermediate level of analysis. Especially the latter two concepts provide a basis for firm-related research because they explain diversity within industries. Although not naturally complements, both perspectives share common elements to analyze performance effects (Short 2007). In both concepts, firms try to formulate strategies that are difficult to imitate. Either isolating mechanisms (Rumelt 1984) or mobility barriers (Hunt 1972; Mascarenhas/Aaker 1989; Porter 1979) are used to inhibit imitation. Neither of the isolated perspectives provides a complete explanation of firm performance. The integration of both views can lead to a better understanding of how firms can achieve outcomes by linking firm resources, strategic group membership, and environmental factors to performance (Joyce 2003; Leask/Parnell 2005; Mahoney/Pandian 1992; Rouse/Daellenbach 1999; Short et al. 2003a).

Besides the country- and industry-specific enforcement of intellectual property rights (Keupp et al. 2009, 2010; Shultz/Saporito 1996), anti-counterfeiters use strategies and instruments that depend on specific capabilities and competencies for mutual competition (Chaudhry/Zimmerman 2009; Staake/Fleisch 2008; Staake et al. 2011; Trott/Hoecht 2007) to obtain an anti-counterfeiting competitive advantage. Therefore, the detection of and the linkage among relevant competencies and strategies to derive common configurations, and their influence on outcome variables, needs to be analyzed in more detail. To study these issues, a mixed-method approach is discussed in the following section.

3.2 Mixed-methods research

The selection of the sample, variables, and methods is an important decision in configurational research because these decisions may affect the results (Ketchen et al. 1997). The primary challenges encountered in ACM research are the relative absence of related academic literature and the absence of existing qualitative or quantitative data. Thus, primary data must be directly acquired. Unfortunately, corporate confidentiality policies to protect anti-counterfeiting operations, limited ACM knowledge, or the fear of negative effects on corporate reputation often prevent rights holders from speaking openly about ACM (Chaudhry/Zimmerman 2009; Staake et al. 2011). Thus, ACM can be characterized as a research field that is new, poorly understood in terms of variables, hard to quantify, and difficult to investigate due to a lack of data.

These characteristics suggest that a mixed-methods research approach would be appropriate to explore ACM competencies (Creswell 2009; Molina-Azorin 2007). Mixed-

methods research combines qualitative and quantitative data collection and data analysis in a single study or in multiple phases of a program (Creswell/Plano Clark 2011; Johnson/Onwuegbuzie 2004; Johnson et al. 2007; Teddlie/Tashakkori 2003). In organizational and strategic management research, mixed-methods approaches have attracted growing attention (Molina-Azorin 2012; Molina-Azorin/Cameron 2010), as they have in related fields such as human resource management (Kiessling/Harvey 2005), quality management (Tari 2011), marketing (Koll et al. 2010), and accounting (Modell 2009). Combining qualitative and quantitative research may provide a better understanding of research problems and complex phenomena than would a single-method approach (Byrman 2006, 2007; Creswell 2009; Creswell/Plano Clark 2011; Greene et al. 1989; Johnson/Onwuegbuzie 2004). For mixed-method approaches, quality criteria standards are not well established. First, the interaction between different phases and methods should be meaningful and suitable to the research questions. This requirement is met by this work as outlined above. Second, different phases should individually fulfill the relevant quality criteria. Therefore, qualitative and quantitative criteria are used in section 4 (Bryman et al. 2008; Creswell/Plano Clark 2011). Addressing the identified conceptual and theory-based research deficits, a sequential exploratory research design with two phases is used to develop an understanding of ACM configurations.

Phase 1 is based on a qualitative procedure to derive relevant information about competencies at a corporate level. As this study is exploratory in nature, the variable selection focuses a cognitive approach with a qualitative basis of industry experts to ensure the trustworthiness of the variables for the clustering procedure in phase 2 (Ketchen/Shook 1996; Mascarenhas/Aaker 1989; Reger/Huff 1993). Unlike a quantitative approach, an emergent qualitative research design in phase 1 allows for both the establishment of a basic framework at the beginning of the research process and the ability to specify new elements motivated by mid-experiment findings (Cassell/Symon 2009; Creswell 2009; Denzin/Lincoln 2011). MAXQDA (VERBI 2011) is employed as the data analysis software, which is based on the qualitative content analysis method (Mayring 2000, 2002). The findings from phase 1 result in a novel questionnaire that is used to gather quantitative information from a second group of respondents in the second phase. Recommendations for the selection of input variables for cluster analysis are manifold. Besides inductive and deductive approaches, methods can be categorized according to the number of variables used to describe a sample's characteristics. Researchers can integrate many variables to incorporate a great deal of information, or they can rely on only a few variables for classification by carefully selecting the most important elements (Ketchen/Shook 1996; McKelvey 1975). In configurational research and cluster analysis, the selection of dimensions is a compromise between the desire to accurately replicate reality and the practical necessity to generalize

(Carper/Snizek 1980; McKelvey 1982; Meyer et al. 1993). The later approach seems to be the better solution because variables that do not help differentiate between clusters can instead distort group detection (Punj/Stewart 1983). The independence of cluster variables must also be considered during the selection process. As cluster methods do not rely on uncorrelated variables, empirical correlation and conceptual overlap are permitted (Milligan 1996). Discriminant validity is assured by the validation of anti-counterfeiting experts. Following these remarks, the conceptual model is based on (1) a parsimonious set of domains that reflect the necessary anti-counterfeiting competencies and (2) descriptive variables used to characterize the clusters but are not integrated into the clustering procedures. All subsequent calculations are performed in SPSS 19, ALMO 14, and Microsoft Excel 2007. Detailed descriptions of phase 1 (section 4.1), the competence-based framework for ACM (section 4.2), and phase 2 (section 4.3) are presented next.

4. Research methodology

To develop the competence-based model of ACM, a multi-dimensional perspective is used. The underlying competencies are identified in subsection 4.1 as domains that eventually constitute the specific constructs in subsection 4.2 based on the results of phase 1. Outcome and control variables are presented to describe the taxonomy in more detail. The two-stage approach for cluster analysis in phase 2 completes the methodology in subsection 4.3.

4.1 Phase 1: Qualitative procedures

4.1.1. Data collection and sample description

For the subsequent qualitative data collection, an adequate triangulation of information is needed because indirect information acquisition concerning ACM due to the lack of available data requires the control of the data collection for the researcher (Cassell/Symon 2009; Creswell 2009; Denzin/Lincoln 2011; Rubin/Rubin 2005). Multiple qualitative instruments, including semi-structured expert interviews with open-ended questions and interview transcripts, case studies, and internal documents are employed. Previous studies have successfully used these instruments to investigate ACM (e.g., Chaudhry/Zimmerman 2009; Keupp et al. 2009, 2010; Staake/Fleisch 2008). Given the early stage of research, ACM has to be explored in phase 1 by focusing on a high level of comprehensiveness and generalizability. provides the sample overview. In total, 280 interviews with representatives from 184 companies and institutions have been conducted from August 2007 to July 2010 (table 2). Only experts who are directly linked to counterfeiting as part of their work, irrespective of their hierarchical positions, are selected for the subsequent data analysis. Consequently, the interviews have been reduced to 230 exploratory interviews with 247 anti-counterfeiting experts who cover a wide range of operating positions and hierarchical levels and possess anti-counterfeiting experience ranging from three months to 15 years.

Table 2: Sample overview

Function	Share (%)	ISIC-Section[1]	Share (%)
Management	15.4	Manufacturing	57.1
Legal Dept.	14.6	Professional, scientific and technical activities	14.7
Anti-Counterfeiting	9.7	Other service activities	9.2
IP Management	8.9	Information and communication	8.2
R&D/TIM	8.1	Transportation and storage	4.3
Academic Research	5.3	Construction	3.8
Marketing	3.6	Public administration and defense; social security	1.1
PR/Communication	3.6	Wholesale and retail trade	0.5
Corporate Security	2.8	Education	0.5
Business Development	2.4	Administrative and support service activities	0.5
Sales Dept.	2.4		
Product Management	1.6		
Quality Management	1.6		
Management Accounting	1.2		
Other[2]	3.6		
No Permission	15.0		

1 = International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4 (UN 2008); 2 = For instance Foreign Affairs, Statistics, Production/Manufacturing, Key Account Management, Informatics, Parts, and Project Management

The interview topics are developed from the body of knowledge on (anti-) counterfeiting from the relevant literature and from insights into anti-counterfeiting efforts of the interviewees. As data collection and data analysis are simultaneous processes in qualitative research (Huberman/Miles 2002; Marshall/Rossman 2006), questions in the first draft of the interview guideline are tested with representatives of German industry associations. After two revisions, the final guideline consists of three sections. First, the experts are asked to characterize the economic, consumer, geographical, legal, product, social, and supplier aspects of a typical counterfeiting case in their fields of expertise. In the second and third sections, ACM is discussed in terms of aims, competitive advantages, dynamic capabilities, competencies, strategies, instruments, processes, supply chain, and organizational structures.

4.1.2. Data analysis and quality assurance

An inductive approach is used to develop and summarize the categories for software-based content analysis and deductive category application for structuring data (Mayring 2000, 2002). Open coding (defining new codes for interesting aspects that are identified while reading the documents) allows for new sub-categories to be integrated into main categories and for entire new main categories to be added. The coding system is revised five times during data analysis by merging, adding, or separating the extracted passages. The final conceptual framework is described in the next section. Table 3 provides information concerning qualitative validity and reliability according to Creswell 2009 and Gibbs 2007.

Table 3: Quality assurance in phase 1

	Criteria	Research Design	Instrument Selection	Data Collection	Data Analysis	Results
Reliability	Transcripts	Transcription rules	Summary transcripts	Informant check; 40 interviewers (2 per interview); interviewer training	Researcher; peer discussion	n/a
	Codes	n/a	n/a	Memos	Coding rules; memos	Documentation
	Communication	No team coding, research meetings for preliminary discussion				
	Cross-Checking	Process documentation	n/a	Case study	5 coding repetitions	Case studies
Validity	Triangulation	Multiple topics	Expert Interview; case study	Multiple actors, industries & functions	Category system	Cases, transcripts; internal documents
	Member Checking	n/a	n/a	Interviewee approval	Follow up calls	n/a
	Description	Literature review	Instrument description;	Sample description	Instrument description	Result description
	Researcher Bias	Literature review	Interviewer ≠ researcher	Interviewer ≠ researcher	Codified procedure	n/a
	Discrepant Information	n/a	n/a	Two interview guides; follow-up calls; cases	Discussion & verification	Discussion
	Time	business projects; long project duration				
	Debriefing	Experts for qualitative methods, colleagues, presentations, expert talks				
	External auditor	Research meetings	Research meetings	Research meetings	Research Meetings	Conferences

4.2 A competence based framework for ACM

The conceptual framework for the grouping variables is derived from the content analysis of the transcripts and the cross-case analysis. Interview partner 136 (private investigator) summarizes the basic idea: "*You can identify methods and aims from the modus operandi*."[2] Following this recommendation, a combination of process- and competence-oriented perspectives is used to develop a framework. ACM can be divided into primary and support activities to generate company-specific (dis-) advantages and to provide value to customers. Not only can the primary and supporting activities elucidate ACM, but the underlying competencies can identify the outcomes of anti-counterfeiting. As expert 44, a head of an anti-counterfeiting department, illustrates: *"The external presentation in this topic varies greatly from company to company and not anyone is able to be as active as [company name deleted] due to a lack of size and competence."* Thus, ACM competencies are derived from the transcripts as grouping variables that allow a more detailed description of ACM configurations. All dimensions are considered reflective and are measured using a 5-point

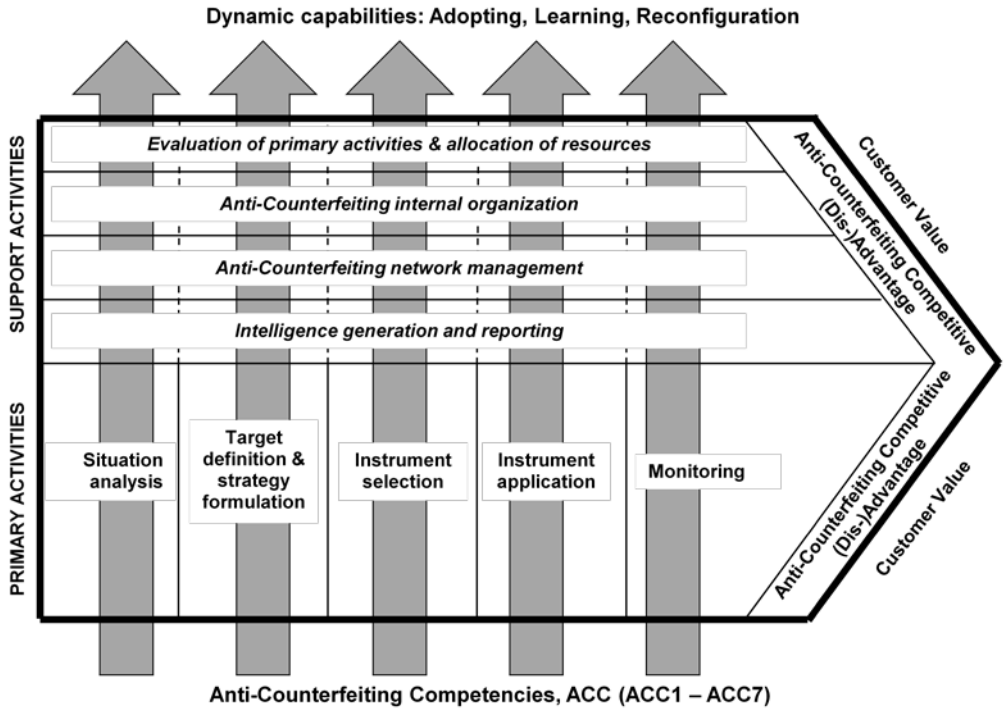
[2] All translations made by the author.

scale (strongly disagree/no not at all = 1; strongly agree/completely = 5). The items for each dimension are equally weighted. To prevent rater bias, the scale is sometimes inverted in the survey and recoded afterwards. The setting is revised twice by integrating the recommend-dations from members of anti-counterfeiting working groups of two business associations to ensure reliability. Cronbach's Alpha (CA) is reported for each capability dimension individually as is the reflective index itself (Field 2009) in appendix A.

4.2.1 Anti-counterfeiting management

ACM at a corporate level can be separated into (1) the direct anti-counterfeiting process (primary activity) and (2) supporting activities that are needed for successful anti-counterfeiting (figure 1). At the end of each subsection, propositions are presented to summarize the findings.

Figure 1: A basic framework for anti-counterfeiting management analysis



(1) Primary activities directly address the different stages of an anti-counterfeiting process. Anti-counterfeiters have to conduct an internal and external situation analysis to acquire information about the counterfeiting problem. Based on these findings, protection targets are identified and the anti-counterfeiting strategy can be formulated. Following this step, adequate legal, managerial, technical, and political instruments have to be selected and applied. Afterwards, a monitoring system is used for periodic counterfeiter and market surveillance. (2) Supporting activities are not involved in the direct value creation process but support the primary anti-counterfeiting process. Closely linked to situation analysis and monitoring efforts, intelligence generation is an ongoing supporting activity for directing anti-

counterfeiting. Therefore, a regular reporting system is also an important element. External network management for directing partners within the value chain and the establishment of internal organizational structures are needed to provide a basis for ACM. All steps should be evaluated to improve future applications of the process and to allocate resources for protection.

Anti-counterfeiting competence (ACC) of rights holders is reflected by seven capabilities. Informational capability (ACC_1) denotes the verification of information ("human intelligence") and the use of a monitoring system ("monitoring"). Strategy (ACC_2) includes "resource allocation," "top-management support," and the capability to formulate an adequate anti-counterfeiting strategy ("strategy formulation"). Organization (ACC_3) is determined using the "process" and "structure" (e.g., team formation), the independence of the unit ("decision making"), and the "experience" in anti-counterfeiting. To represent an instrumental capability (ACC_4), "selection," "implementation," "customization," and "application" of protection instruments are used. Evaluation (ACC_5) reflects the capability of reviewing counterfeiting ("external evaluation") and anti-counterfeiting activities ("internal evaluation"). The sixth capability, networking (ACC_6), reflects a company's potential to profit from their "general network," from participating in specialized networks ("degree of network participation"), and from "leading networks" to support specific interests. Reporting (ACC_7) reflects the information about (anti-) counterfeiting in the company by assessing the "quality" and "frequency" of anti-counterfeiting reports. Cronbach's Alpha for each dimension and the index itself are high (> .70); the experts support the constructs. Survey results from phase 2 (see subsection 4.3 for more details) seem consistent with the qualitative results of phase 1. To summarize, several propositions can be drawn from the findings for ACM to further elaborate RQ1 and RQ2

P 1.1.1 *Internal organizational structures of anti-counterfeiters include primary and secondary activities. Primary activities directly focus anti-counterfeiting, which includes situation analysis, target definition and strategy formulation, instrument selection and application, and monitoring activities. Secondary activities support anti-counterfeiting and consist of resource allocation and performance measurement, the organization of internal and external organizational structures, and intelligence generation and reporting.*

P 2 *The ACM competence of companies is reflected by their underlying intelligence, strategic, organizational, instrumental, evaluation, networking, and reporting capabilities.*

4.2.2 Outcome and descriptive variables

For both strategic group- and resource-based research, outcome and descriptive variables help contrast performance differences between groups and explore these differences in more detail (Daellenbach/Rouse 2007; Short et al. 2007). In this study two output measures, three general descriptive variables, and several management-oriented variables for ACM are explored to complement the clustering procedure. All questions can be found in appendix A. The literature review and the content analysis show that addressable outcome measures for ACM are scarce. Financial figures are not available in databases, companies do not or are not able to measure their efforts, and losses are not disclosed. For this study, outcome variables characterize the success of ACM by a two-dimensional construct that takes estimated current success and dynamic capabilities, such as long term development opportunities, into consideration.

Current success is determined by four measures. (1) Rights holders and counterfeiters compete for a given sales volume. Thus, the first variable is the “protection of sales volume,” which describes the ability of the rights holder to stabilize sales. (2) Anti-counterfeiting should lead to fewer counterfeits for a specific rights holder. “Reduction of counterfeits” represents these efforts. (3) As anti-counterfeiting may be a source of competitive advantage in legal competition (e.g., the rights holder in question successfully avoided counterfeiters but competitors did not), anti-counterfeiting success as compared to other legal competitors is evaluated. (4) Finally, the outcome of ACM is measured by “success compared to counterfeiter” for direct comparison. These variables are computed to the index (SUC_INDEX4), representing the overall outcome measure with high reliability.

Dynamic capabilities of rights holders reflect the interaction of ACM (ACM_DC) with environmental factors for long term success. “Reconfiguration” measures the possible degree of reorganization of the ACM system caused by environmental changes. “Adaption” represents the specialization or generalizability of the anti-counterfeiting system and its ability to specifically react to different counterfeiters. “Internal learning” is defined as the knowledge gained by the legitimate company from its previous anti-counterfeiting procedures. As competitors use anti-counterfeiting alone or in cooperation with another company, “external learning” is used to characterize the degree of learning from competitors. For RQ3, the following statement seems appropriate.

P 3 *ACM performance can only be directly measured if corresponding corporate financial data are publicly available or if companies are able and willing to provide such data. However, ACM performance can be estimated by analyzing short term success in anti-counterfeiting and the long term development of dynamic ACM capabilities.*

The type of counterfeit and the company size are used as general descriptive variables. “Product piracy” represents the infringement of industrial property rights (e.g., patents) and “Trademark piracy” implies the violation of trademark law. Concluding from the expert interviews that only larger companies are able to protect themselves, company size is composed of “number of employees” and “sales volume.”

To describe ACM configurations in terms other than clustering variables, the survey asks for strategies, instruments, and the starting time of ACM in the product life cycle.

ACM strategies play an important role in generating protection options for rights holders. This study utilizes six different strategies (“toleration” = toleration of counterfeiters; “cooperation with counterfeiters” = utilization of counterfeiters; “cooperation with other rights holders” = joint anti-counterfeiting efforts; “prevention” = prevention of counterfeiting; “sanction” = legal prosecution of counterfeiting; “secrecy” = non-disclosure of intellectual property opposed to a legal prosecution strategy) and four types of instruments (“Legal” = using intellectual property rights such as patents or trademarks; “secrecy“ = instruments to hinder knowledge dissemination, such as non-disclosure agreements; “management” = management-based instruments (e.g., human resources); “technical/technological” = product or supply chain related solutions (e.g., holograms, RFID); “political” = instruments addressing public or private sector authorities (e.g., lobbying)). Addressing RQ1, P1.2, and RQ2 the following propositions can be offered:

P 1.2.1 *ACM consists of prevention, sanctions, toleration, secrecy, and different forms of cooperation as basic strategies. Anti-counterfeiting instruments can be categorized as legal, technical/technological, political, and management-oriented measures to succeed in competition.*

P 2.1 *Besides strategies and instruments, anti-counterfeiters are threatened differently by the magnitude of their products and by the extent to which trademark piracy and company size affects their ACM efforts.*

4.3 Phase 2: Quantitative procedures

4.3.1 Data collection and sample description

For data collection, an online web survey is constructed with the open source software LimeSurvey. The questionnaire is based on the findings of phase 1. Based on the feedback from a first-draft pretest of 60 graduate students and doctoral candidates, questions are reformulated or eliminated as needed to ensure the validity of the questionnaire. The final questions can be found in appendix A. The online survey was open for a six-month period between September 2010 and February 2011. To generate a broad sample structure across different industries, countries, and companies, anti-counterfeiting experts from 17 business associations participated in this survey (table 4). The participants are asked to only answer

the questionnaire if they are engaged in the specific field. To limit recognition bias in answering the questions for ACM, experts should use one example from their experience within the last three years. Since relevant financial data for ACM is not available, a common method bias could arise due to the derivation of the cluster variables and outcome measures from the same respondents. Thus, each respondent should refer to one specific counterfeiting case for one product and to the one country that the respondent knows best.

Table 4: Participating associations

Association	Industry sector	Company type	Country focus
ACG – Anti Counterfeiting Group	CG[2] & IG[3]	MNC	U.K.
AIM – European Brands Association des Industries de Marque	CG & IG	MNC	Europe
AIWG – Automotive Industry Working Group	Automotive	MNC	China
APM – German Anti-Counterfeiting Association	CG & IG	MNC, SME	Germany
BOPG – Brand Owners Protection Group	CG	MNC	UAE
CBFA – Customs Brokers & Forwarders Council of Australia	CG & IG	MNC	Australia
CIPR – Coalition for Intellectual Property Rights	CG & IG	MNC	Global
ICC[1] BASCAP – Business Action to Stop Counterfeiting and Piracy	CG & IG	MNC	Global
ICC Belgium	CG & IG	MNC, SME	Belgium
ICC Mexico	CG & IG	MNC, SME	Mexico
ICC Thailand	CG & IG	MNC, SME	Thailand
INSME – International Network for SMEs	CG & IG	SME	Global
MARQUES – Association of European Trademark Owners	CG & IG	MNC, SME	Europe
Orgalime – European Engineering Industries Association	Engineering	MNC, SME	Europe
SACG – Swedish Anti-Counterfeiting Group	CG & IG	MNC, SME	Sweden
SIGNO – Idea Protection for commercialization	Inventors	S(M)E	Germany
VDMA – Product and know-how protection, a working group within the German Engineering Federation	IG	MNC, SME	Germany

1 = International Chamber of Commerce; 2 = consumer goods, 3 = industrial goods

The questionnaire includes short descriptions of the questions to support understanding. Respondents are able to omit a question if they are not allowed or not able to answer it. To maximize accurate answers, all participants receive an executive summary (Conway/Lance 2010; Podsakoff et al. 2003; Podsakoff et al. 2011). Due to confidentiality concerns of the associations and of the participating experts, direct contact (which would enhance the responses) is avoided. As no absolute number of possible anti-counterfeiting experts for each association can be reported, non-response bias cannot be analyzed.

The respondents are portrayed using “position by occupation” and “experience in anti-counterfeiting by years.” More than 45% of the respondents have been engaged in ACM for more than five years and work in intellectual property, legal, or anti-counterfeiting departments. The main focus of counterfeiting activities lies in transition countries, which are represented by the upper-middle income economies according to the World Bank Classification (WB 2012). The sample (table 5) focuses the manufacturing industry (85.5%)

with machinery and equipment, computer and electronics, and other manufacturing (such as sporting goods, games, or medical instruments) as dominant industry divisions (UN 2008). Altogether, the author received 211 responses. Only questionnaires with more than 50 percent of completed answers (N = 176) are used for all subsequent calculations. Outliers are deleted and missing values are excluded pairwise.

Table 5: Sample overview

Industry division by ISIC Rev. No. 4		Position of respondent		ACM experience respondent (years)	
Machinery and equipment	17.5%	IP Management	22.7%	< 1	6.6%
Computer & electronics	10.0%	Legal Department	18.5%	< 3	12.8%
Other manufacturing	7.1%	Anti-Counterfeiting	11.4%	< 5	18.5%
Electrical equipment	7.1%	General Management	11.4%	< 7	20.9%
Pharmaceuticals	6.6%	Marketing Department	8.5%	7+	25.6%
Motor vehicle	5.7%	Corporate Security	5.7%	MV	15.6%
Furniture	5.2%	R&D	5.7%		
Textiles	4.3%	Others[3]	13.2%		
Other[2]	4.7%	MV	10.9%		
MV[1]	31.8%				
Country by income $ (World Bank Classification)		Company size by number of employees		Company size by sales volume in US$	
Low (<1,005)	0.5%	0-499	12.8%	0-499 Mio.	28.4%
Lower-middle (1,006-<3,975)	1.4%	500-999	6.6%	500-999 Mio.	10.9%
Upper-middle (3,976-<12,275)	65.4%	1,000-4,999	18.5%	1-4.99 Bn.	20.4%
High-income non-OECD (>12,276)	2.8%	5,000-9,999	11.4%	5-9.99 Bn.	7.1%
High-income OECD (>12,276)	27.5%	10,000+	35.1%	10 Bn.+	16.6%
MV	2.4%	MV	15.6%	MV	16.6%

N = 211; 1 = Missing value; 2 = Wholesale/retail trade, chemicals, plastics products, etc.; 3 = (In-house) Consulting, Quality Management, Manufacturing, etc.

4.3.2 Data Analysis and quality assurance

Cluster analysis provides an established technique in strategic management research for organizing and simplifying multivariate data sets into clustered configurations (Aldenderfer/Blashfield 1984; Blashfield/Aldenderfer 1978; Ketchen/Shook 1996). Shortcomings can be caused by a strong reliance on researcher judgment, an insufficient knowledge of clustering algorithms, or a missing underlying theoretical rationale (Barney/Hoskisson 1990; Meyer 1991; Reger/Huff 1993; Thomas/Venkatraman 1988), which can result in inaccurate or artificial depictions (Ketchen/Shook 1996). To address possible limitations, phase 2 follows the recommendations of Ketchen/Shook 1996 and Everitt et al. 2011 for (1) clustering variables, (2) clustering algorithms, (3) determining the number of clusters, and (4) validating the clusters.

(1) As stated in section 4.1, this study uses a cognitive approach to select variables and derives inductive configurations to explore ACM based on the content analysis to enhance its accuracy. Since all grouping variables are measured on the same 5-point scale, because there are no substantial differences between (non-)standardized variables, and because

changes in variables might influence a meaningful interpretation, no standardization of the variables is applied (Edelbrock 1979; Milligan 1980). The inspection of the histograms and Q-Q plots implies approximately normally distributed data (Field 2009). Multi-collinearity among the grouping variables might distort cluster results. The correlation matrix and factor analysis can be used to examine this issue. In table 6, the correlation matrix for all clustering variables is shown. All values are at an acceptable level below .9 (Field 2009). The results of principal component factor analysis with and without orthogonal rotation also indicate an alternative solution because the KMO- and Bartlett-Tests are significant. This approach is rejected for two reasons. First, factors with an eigenvalue less than 1 should be excluded. This leads to an alternation of the framework and is contrary to the experts' experience. Second, the distances between the clusters may be changed, contradicting the underlying empirical structure (Aldenderfer/Blashfield 1984; Dillon et al. 1989).

Table 6: Pearson correlation and descriptive statistics of the clustering variables

Variables	Means	S.D[1].	1	2	3	4	5	6	7
ACM N = 176									
ACC_1_IG	3.31	1.01	1	.77**	.78**	.80**	.62**	.72**	.75**
ACC_2_STR	3.49	1.02		1	.84**	.80**	.65**	.67**	.78**
ACC_3_ORG	3.16	1.15			1	.75*	.67**	.78**	.85**
ACC_4_INST	3.15	.95				1	.67**	.64**	.73**
ACC_5_EVA	2.98	1.0					1	.59**	.68**
ACC_6_NET	3.06	1.14						1	.66**
ACC_7_REP	3.33	1.10							1

** Correlation is significant at the .01 level (2-tailed); * Correlation is significant at the .05 level (2-tailed); 1 = Standard Deviation

(2) Cluster analysis identifies classifications along specified variables by minimizing within-group distances (or variances) and by maximizing between-group distances (or variances) (Ketchen/Shook 1996). Hierarchical clustering techniques are based on stepwise agglomerative (adding objects) or divisive (deleting objects) algorithms using (dis-) similarity measures. Despite having several limitations (such as non-repeated measurement and sensitivity to the number of cases used for clustering), hierarchical solutions do not require a priori specified numbers of clusters, and thus they are suitable to explore configurations. They should be preferred for the examination of a wide range of alternative clusters and a sample size below 300 observations (Hair et al. 2007). Nonhierarchical clustering algorithms iteratively separate a data set into clusters. On the one hand, they are less influenced by outliers because alternating cluster membership is allowed and repeated passes through the data optimize homogeneity within and heterogeneity between the final cluster solutions (Everitt et al. 2011). On the other hand, the number of clusters has to be specified a priori, a problem for exploratory inductive research (Milligan 1980; Milligan/Cooper 1985). Milligan 1980 and Punj/Stewart 1983 have shown that the combination of both procedures increases validity. Consequently, this study uses a two-step approach to explore ACM by hierarchical agglomerative clustering to determine the cluster solution and nonhierarchical clustering to

assign observations to the clusters applying the squared Euclidian distance measure (Ng et al. 2009). The inspection of boxplots and single linkage clustering are used to detect and delete outliers to improve the clustering procedure. Missing values are excluded pairwise as a compromise between data size and quality (Everitt et al. 2011; Field 2009). Since different clustering procedures can influence the final solution, Rand's index is calculated because it is among the best-performing criteria for examining stability. The Rand statistic measures the proportion of pairs of corresponding vectors by belonging either to the same or to different clusters in the partitions derived from clustering algorithms (Brun et al. 2007; Rand 1971). Thus, the fit to the data for seven hierarchical techniques individually, algorithm groups, and the overall measurement stability are calculated with ALMO 14 with 200 passes (table 7).

Table 7: Aggregated Rand statistics for clustering methods

	Nearest-neighbor		Average (means)		Cluster center			
Research Topic	Complete Linkage	Single Linkage	Average Linkage	Within Average Linkage	Median Linkage	Centroid Linkage	Ward	Grand mean
ACM (N=176)	.71	.50	.74	.61	.74	.75	.67	.67
Group Mean	.61		.68		.72			

The grand mean for the instruments is acceptable (.67). Algorithms based on average scores and cluster centers are the most consistent algorithms for the given data set. This finding agrees with past studies of cluster analysis, which recommend that average scores or cluster centers be used to provide starting cluster numbers for subsequent partitioning procedures. Median and Centroid Linkage are not considered as possible primary procedures because inversions of the hierarchical structure can be problematic (Everitt et al. 2011). Ward's method aims to identify clusters with equally distributed cluster members. Compared to the other algorithms, a different clustering algorithm is applied that minimizes the variance within clusters and maximizes it between them (Ward 1963). Ward's method is considered to provide superior performance among hierarchical algorithms (Milligan 1980, 1981a, b; Punj/Stewart 1983). Following this recommendation and the acceptable value of .67, Ward's method is applied as main procedure to provide the starting solution. For partitioning, the K-means procedure provides robust results based on an appropriate starting solution (Milligan/Cooper 1987; Punj/Stewart 1983). K-means clustering assigns groupings by minimizing the within sum of error squares, distinguishing between the different clusters (Everitt et al. 2011; MacQueen 1967). The combination of these two clustering procedures has previously been employed to study configurations (Ketchen et al. 1997; Ketchen et al. 1993).

(3) Ketchen/Shook 1996 recommend multiple methods to determine the appropriate number of clusters to limit researcher bias. In this study, a visual- and criteria-based selection of the final number of clusters is applied. In the first step, dendrograms and inverse screeplots

provide the starting point for visual inspection. Dendrograms use the hierarchical agglomeration structure, which represents the different points for merging single cases or clusters into new cluster solutions based on the distance coefficient (Everitt et al. 2011) in SPSS 19. Inverse screeplots are calculated with MS Excel 2007 to compare the partition number with the linkage coefficient of the agglomeration structure (Lathrop/Williams 1987, 1990). Cluster selection by visual inspection may lead to a bias due to a misinterpretation by the researcher (Aldenderfer/Blashfield 1984). Thus, visual inspection is only used to reduce the potential clusters to a maximum of five possible solutions with two to six clusters. In the second step, six indices for determining internal consistency and Rand's index (Rand 1971) for examining the stability of the identified cluster solutions are computed with ALMO 14 (200 repetitions; $p < .05$). For internal consistency, Mojena's rule 1, Mojena's rule 2, γ coefficient, C-Index, G1 Homogeneity, and W/B Index are selected, all of which are ranked among the top ten indices based on the performance reviews of Milligan 1981a and Milligan/Cooper 1985. As the first stopping rules, Mojena 1 and Mojena 2 are calculated to further reduce the number of potential cluster solutions based on the overall means and standard deviation, respectively, in the overall regression analysis. These rules examine a confidence interval by analyzing the fusion values at each level in the hierarchy. The first occurrence for which a fusion value exceeds a test value between 2.75 and 3.50 indicates a .997 ($p < .003$) significance level (Mojena 1977). The graphical solutions are compared with the dissimilarity matrix for each of the five cluster solutions using the non-parametric γ coefficient (Baker/Hubert 1975). The coefficient represents the proportion of (in-) consistent outcomes involving between-cluster and within-cluster distances, and is calculated for this study at a .95 significance level ($\gamma > .65$, $p < .05$, one-tailed). The C-index compares the maximal and minimal within-cluster distances and determines the level of equal cluster assignments; thus, the C-index should be minimized (Hubert/Levin 1976). G1 Homogeneity uses the difference of the average dissimilarity between and within clusters to characterize a cluster solution (Klastorin 1983). Since within-cluster dissimilarity should be smaller than between-cluster dissimilarity, G1 values should be maximized. The W/B Index indicates the ratio of average within- and between-cluster proximity (McClain/Rao 1975). Minimal values should be addressed because proximity should be higher within clusters.

All test values for internal consistency across the seven clustering procedures can be found in table 8. To determine the cluster number that should be provided for the application of K-means clustering, a hierarchical assessment is applied based on the ranking of Milligan/Cooper 1985. For reliability, the evaluation is conducted by three researchers independently. First, the C-Index and γ coefficients are examined. Second, G1 Homogeneity and Mojena 1 and 2 are inspected. Third, the W/B Index is studied. Fourth, Ward's method is

evaluated separately. The last evaluation step considers Rand's index for cluster stability over all clustering procedures.

Table 8: Criteria for the determination of cluster solutions (ALMO 14, 200 passes, p < .05)

# Cluster	Mojena 1 (> .997)	Mojena 2 (> .997)	γ coefficient (max; p < .05)	C-Index (min)	G1 Homo-geneity (max)	W/B Index (min)
ACM (N = 176)						
	1.740[1] (.958)	3.095[1] (.999)	.789[1]	.279[1]	18.168[1]	.320[1]
	1.918[2] (.972)	.780[2] (.782)	.303[2]	.160[2]	19.667[2]	.387[2]
	2.371[3] (.990)	3.095[3] (.999)	.734[3]	.274[3]	19.270[3]	.283[3]
6	3.820[4] (1)	6.297[4] (1)	.748[4]	.221[4]	22.756[4]	.356[4]
	2.704[5] (.996)	2.982[5] (.998)	.763[5]	.249[5]	20.602[5]	.308[5]
	.342[6] (.633)	5.270[6] (1)	.786[6]	.262[6]	14.950[6]	.287[6]
	3.578[7] (1)	4.286[7] (1)	.791[7]	.193[7]	26.879[7]	.344[7]
	2.268[1] (.988)	4.065[1] (1)	.796[1]	.269[1]	18.041[1]	.325[1]
	3.037[2] (.999)	2.031[2] (.978)	.335[2]	.160[2]	20.802[2]	.793[2]
	3.884[3] (1)	5.490[3] (1)	.748[3]	.206[3]	22,555[3]	.314[3]
5	3.450[4] (1)	4.653[4] (1)	.751[4]	.221[4]	25.841[4]	.357[4]
	3.005[5] (.998)	3.199[5] (.999)	.748[5]	.206[5]	19.927[5]	.297[5]
	.407[6] (.658)	5.468[6] (1)	.761[6]	.216[6]	16.646[6]	.304[6]
	.782[7] (.782)	-.241[7] (.594)	.561[7]	.173[7]	30.785[7]	.515[7]
	3.071[1] (.999)	5.368[1] (1)	.778[1]	.228[1]	21.513[1]	.335[1]
	3.037[2] (.999)	1.900[2] (.970)	.353[2]	.160[2]	22.807[2]	.783[2]
	3.991[3] (1)	4.889[3] (1)	.744[3]	.213[3]	23.626[3]	.304[3]
4	3.239[4] (.999)	3.799[4] (1)	.753[4]	.222[4]	24.175[4]	.310[4]
	3.708[5] (1)	3.943[5] (1)	.749[5]	.208[5]	23.547[5]	.300[5]
	1.706[6] (.955)	19.958[6] (1)	.796[6]	.220[6]	20.537[6]	.330[6]
	4.732[7] (1)	5.464[7] (1)	.562[7]	.173[7]	28.633[7]	.515[7]
	3.536[1] (.999)	5.544 (1)	.762[1]	.238[1]	20.432[1]	.347[1]
	3.261[2] (.999)	2.025[2] (.978)	.379[2]	.160[2]	25.478[2]	.734[2]
	4.228[3] (1)	4.631[3] (1)	.742[3]	.213[3]	20.416[3]	.305[3]
3	4.890[4] (1)	5.828[4] (1)	.752[4]	.223[4]	21,714[4]	.310[4]
	4.246[5] (1)	4.265[5] (1)	.747[5]	.209[5]	20.157[5]	.301[5]
	2.46[6] (.992)	14.988[6] (1)	.717[6]	.190[6]	16.309[6]	.341[6]
	5.834[7] (1)	6.120[7] (1)	.654[7]	.149[7]	19.942[7]	.360[7]
	10.615[1] (1)	16.755 (1)	.754[1]	.216[1]	18.041[1]	.305[1]
	4.157[2] (1)	2.838[2] (.997)	.400[2]	.161[2]	14.296[2]	.706[2]
	8.207[3] (1)	9.189[3] (1)	.739[3]	.217[3]	17.634[3]	.308[3]
2	8.136[4] (1)	9.123[4] (1)	.750[4]	.226[4]	18.616[4]	.313[4]
	7.673[5] (1)	8.019[5] (1)	.744[5]	.212[5]	17.577[5]	.304[5]
	12.733[6] (1)	50.240[6] (1)	.751[6]	.216[6]	17.969[6]	.307[6]
	5.861[7] (1)	5.215[7] (1)	.400[7]	.161[7]	14.296[7]	.706[7]

1 = Complete Linkage, 2 = Single Linkage, 3 = Average Linkage, 4 = Median Linkage; 5 = Centroid Linkage; 6 = Ward Linkage; 7 = Within-Average-Linkage

The five and s ix cluster solutions seem to perform better compared to other potential solutions. Finally, the five cluster solution is selected because the γ coefficients are mostly above .7 (within-average linkage > .5, single linkage < .5), suggesting consistent outcomes and good cluster assignments because the C-Index is less than .3. G1 Homogeneity is highly positive for all procedures. Mojena 1 and 2 as stopping rules provide better results compared to the six cluster solution. Values for the W/B Index are below .3 (single linkage and within-average linkage > .5). For Ward's method, all values except Mojena 1 (.659) are meaningful (γ coefficient > .7, C-index < .3, G1 Homogeneity = 16.646, Mojena 1 is significant, W/B

Index < .5 (.304)). Measurement errors according to Chebyshev's inequality are below ten percent (3%). For all clustering procedures, the average Rand's index for the identified solution is .67. This value implies a sufficient stability of the final cluster solutions caused by the necessity of a heterogeneous industry sample structure due to the limited availability of anti-counterfeiting experts for the questionnaire and the different clustering techniques themselves. For instance, Rand's index for cluster center techniques is .72, compared to .61 for nearest-neighbor algorithms. The five cluster solutions for ACM are used as initial centers for the K-means clustering procedures in SPSS 19. The results are checked for face validity with members of a business association working group and are discussed with anti-counterfeiting experts. The derived clusters are considered meaningful and clearly interpretable configurations of ACM (Rich 1992). The results are described in more detail in section 5.

(4) To validate the cluster solution, reliability and external validity have to be ensured. Reliability is assessed via scale development, visual inspection, and extensive criterion-based testing of the cluster solutions. Split half methods are not applied because of the small sample size. Stability is addressed by Rand's index. In addition to the judgment of anti-counterfeiting experts from phase 1 and one business association, external validity is tested by inspection of boxplots and variance analysis applying Kruskal-Wallis tests (Kruskal/Wallis 1952) with descriptive and outcome variables (Aldenderfer/Blashfield 1984; Field 2009; Ketchen/Shook 1996; Reger/Huff 1993; Siegel/Castellan 1988).

5 Results and Discussion

Clustering, descriptive, and outcome variables are used to describe characteristics for the identified configurations based on the Kruskal-Wallis test. Strategies and instruments are evaluated by the estimated frequency of use. The adjusted values of the Mann-Whitney test are calculated to highlight significant differences for multiple comparisons of means (Field 2009). The overall results for ACM are shown in table 9. Clustering variables, general descriptives, strategies, instruments, and outcomes are presented for each configuration. To further elucidate the different clusters, country, product life cycle, and industry variables highlight their practical relevance based on Fisher's exact test (Field 2009). A more detailed description of the findings follows in the subsections. To facilitate interpretation and to indicate relevant differences, names are assigned to all clusters, short profiles are presented, and verbal explanations are given. These findings are compared to the insights from phase 1 to ensure a meaningful interpretation.

Table 9: Statistics of clustering, descriptive, and outcome variables for ACM

	Variables[1]	ACM C1 N = 65	ACM C2 N = 35	ACM C3 N = 8	ACM C4 N = 28	ACM C5 N = 41	K-W[2]	Adj. values[3]
Clustering Variables	ACC_1 Intelligence Capability	3.59 (.55)	2.99 (.59)	2.25 (.53)	1.75 (.47)	4.41 (.41)	125.09*	3-1,4,5; 2-4, 5; 1-4,5; 5-4
	ACC_2 Strategic Capability	3.74 (.54)	3.19 (.58)	2.79 (.47)	1.89 (.69)	4.60 (.39)	123.49*	3-1,4,5; 2-4; 1-4,5; 5-4
	ACC_3 Organizational Capability	3.57 (.53)	2.50 (.57)	2.13 (.80)	1.39 (.37)	4.44 (.42)	140.22*	3-1,4,5; 2-4,5; 1-4,5; 5-4
	ACC_4 Instrumental Capability	3.32 (.51)	3.05 (.47)	1.84 (.61)	1.69 (.51)	4.16 (.49)	121.49*	3-1,4,5; 2-4,5; 1-5; 5-4
	ACC_5 Evaluation Capability	3.02 (.58)	2.63 (.61)	3.69 (.65)	1.48 (.45)	4.07 (.61)	116.34*	3-1,2,4,5; 1-2,4; 5-4
	ACC_6 Networking Capability	3.61 (.62)	2.09 (.61)	1.54 (.43)	1.73 (.52)	4.21 (.52)	129.81*	2-4,5; 3-4,5; 1-4,5; 5-4
	ACC_7 Reporting Capability	3.61 (.68)	2.79 (.55)	2.69 (.88)	1.72 (.59)	4.54 (.49)	121.45*	3-1,4,5; 2-4; 1-4,5; 5-4
General	Product Piracy	3.47 (1.21)	2.97 (1.36)	3.88 (1.46)	3.26 (1.40)	3.82 (1.46)	8.72	-
	Trademark Piracy	4.03 (1.10)	3.31 (1.30)	3.00 (2.14)	2.70 (1.38)	3.98 (.97)	22.71*	3-4,5
	Company size	3.53 (1.26)	2.59 (1.08)	2.14 (1.25)	1.94 (1.10)	4.05 (1.12)	50.10*	3-4,5; 2-4; 1-4,5
Strategies	Toleration	1.70 (.81)	1.82 (.80)	2.57 (1.51)	2.59 (1.56)	1.20 (.56)	24.57*	4-1,2,3,5
	Counterfeiter Cooperation	1.16 (.55)	1.17 (.45)	-	1.48 (1.05)	1.08 (.35)	6.55	-
	Competitor Cooperation	3.42 (.95)	2.06 (.92)	1.50 (.54)	1.89 (1.29)	3.68 (1.01)	66.01*	2-4,5; 3-4,5; 1-4,5
	Prevention	3.98 (.94)	3.66 (.87)	3.71 (1.11)	2.30 (1.03)	4.72 (.45)	68.77*	3-1,4,5; 1-4; 5-4
	Sanction	4.28 (.81)	3.97 (.90)	2.88 (1.89)	2.11 (1.42)	4.47 (.99)	47.89*	3-1,4,5
	Secrecy	1.97 (.93)	2.21 (.98)	2.00 (1.00)	3.08 (1.47)	1.94 (.89)	13.50*	4-3; 5-3
Instruments	Legal	4.15 (.74)	4.03 (.71)	3.63 (1.41)	2.19 (.85)	4.68 (.62)	76.21*	3-1,2,4,5; 1-4, 5-4
	Trade Secrets	2.32 (1.06)	2.06 (1.00)	1.88 (.84)	2.68 (1.52)	2.82 (1.14)	10.20*	1-4
	Management oriented	3.38 (.85)	3.29 (.79)	2.38 (.92)	2.12 (.82)	4.40 (.50)	83.54*	3-1,4,5; 2-4; 5-4
	Technologi-cal/technical	2.09 (1.00)	1.69 (.90)	1.50 (.76)	1.19 (.50)	3.25 (1.28)	55.96*	3-4,5; 2-4; 1-4; 5-4
	Political	2.83 (1.11)	1.80 (1.08)	1.38 (.52)	1.38 (.80)	3.31 (.95)	61.52*	3-4,5; 2-4,5; 1-4,5;
Out-come	Dynamic Capability	3.63 (.44	3.13 (.55)	2.25 (.20)	2.00 (.54)	4.11 (.50)	105.95*	3-1,4,5; 2-4,5; 1-4,5; 5-4
	Success in ACM	3.10 (.63)	3.15 (.89)	2.50 (.77)	1.69 (.77)	3.24 (.69)	43.00*	3-1,4,5

1 = Means are shown with standard deviations given in parentheses; 2 = Degrees of Freedom = 4, *2-tailed significance level .05; 3 = Groups are significantly different ($p < .05$, 2 tailed) for Mann-Whitney Test for multiple pairwise comparisons of means.

5.1 Anti-counterfeiting Management Configurations

"Networking enforcers" in group 1 (ACM C1, table 10) are strongly affected by counterfeiting, especially trademark piracy. Companies (such as larger small and medium sized enterprises

(SMEs) and multinational corporations (MNCs)) belonging to this cluster are characterized by moderate to high ACM capability. Strategy formulation, networking, and reporting are elaborate. They possess moderate to high intelligence and organizational structures available to support ACM. Their ability to apply protection instruments and their evaluation are lower. For ACM, sanctions, prevention, and cooperation strategies dominate. Secrecy is seldom used. Legal instruments are applied often and are accompanied by managerial efforts. Political issues are considered if possible. Technical solutions play a secondary role. On average, the success of networking enforcers in fighting counterfeiters is moderate. This limited success may be caused by less focused capability development in case of SMEs or by ineffective network partners for MNCs. Their ability to interact and reconfigure the ACM system is moderate to high. Thus, networking enforcers are able to determine the long term direction and integrate information from other companies, but the application of instruments and the evaluation of ACM are incomplete. Long term or cross-boarder success might be higher based on high dynamic capabilities.

Table 10: Profile of "networking enforcers"

Clustering variables in ranked order[1]							
1. Strategic Capability	3.74 (.54)	2. Networking Capability	3.61 (.62)	3. Reporting Capability	3.61 (.68)	4. Intelligence Capability	3.59 (.55)
5. Organ. Capability	3.57 (.53)	6. Instrumental Capability	3.32 (.51)	7. Evaluation Capability	3.02 (.58)		
General Descriptives							
Product Piracy	3.47 (1.21)	Trademark Piracy	4.03 (1.10)	Company size	3.53 (1.26)		
Outcome Variables							
Dynamic Capability	3.63 (.44)	Success in ACM	3.10 (.63)				
ACM-Strategies TOP 4							
Sanction	4.28 (.81)	Prevention	3.98 (.94)	Competitor Cooperation	3.42 (.95)	Secrecy	1.97 (.93)
ACM-Instruments TOP 4							
Legal	4.15 (.74)	Management oriented	3.38 (.85)	Political	2.83 (1.11)	Trade Secrets	2.32 (1.06)

1 = Means are shown with standard deviations given in parentheses

"Lone fighters" (ACM C2, table 11) are moderately endangered by product and trademark counterfeits. This group possesses low to moderate capabilities for anti-counterfeiting and consists of SMEs. They are able to formulate strategies and apply instruments at a moderate level within their industry sector. Their intelligence and reporting system is not completely suitable for ACM. This is consistent with low (and sometimes moderate) organizational ACM capabilities. Thus, the evaluation of current ACM is not sufficient to enhance more sophisticated protection in the future. Lone fighters are unable or unwilling to profit from networks for ACM, possibly implying isolated case-based actions. The main strategies to actively protect a company's products at a near-high level are sanctions and prevention. To

combat counterfeiters, they rely on legal and managerial instruments and try to use trade secrets at a low level. Political or technical solutions are seldom applied. They achieve moderate overall success, which seems due to the regular enforcement of intellectual property rights. Altogether, long term success or cross country success might be a problem because they do not develop superior dynamic capabilities for ACM.

Table 11: Profile of “lone fighters”

Clustering variables in ranked order[1]							
1. Strategic Capability	3.19 (.58)	2. Instrumental Capability	3.05 (.47)	3. Intelligence Capability	2.99 (.59)	4. Reporting Capability	2.79 (.55)
5. Evaluation Capability	2.63 (.61)	6. Organ. Capability	2.50 (.57)	7. Networking Capability	2.09 (.61)		
General Descriptives							
Product Piracy	2.97 (1.36)	Trademark Piracy	3.31 (1.30)	Company size	2.59 (1.08)		
Outcome Variables							
Dynamic Capability	3.13 (.55)	Success in ACM	3.15 (.89)				
ACM-Strategies TOP 4							
Sanction	3.97 (.90)	Prevention	3.66 (.87)	Secrecy	2.21 (.98)	Competitor Cooperation	2.06 (.92)
ACM-Instruments TOP 4							
Legal	4.03 (.71)	Management oriented	3.29 (.79)	Trade Secrets	2.06 (1.00)	Political	1.80 (1.08)

1 = Means are shown with standard deviations given in parentheses

“Procrastinators” (ACM C3, table 12) recognize that they are affected by counterfeiting, especially in terms of product and technology. They are able to effectively evaluate the case-specific situation based on either their existing processes or the necessity to concentrate their efforts. Since counterfeiting is a new threat to the company and thus there is insufficient reporting, strategy formulation is limited.

Table 12: Profile of “procrastinators”

Clustering variables in ranked order[1]							
1. Evaluation Capability	3.69 (.65)	2. Strategic Capability	2.79 (.47)	3. Reporting Capability	2.69 (.88)	4. Intelligence Capability	2.25 (.53)
5. Organ. Capability	2.13 (.80)	6. Instrumental Capability	1.84 (.61)	7. Networking Capability	1.54 (.43)		
General Descriptives							
Product Piracy	3.88 (1.46)	Trademark Piracy	3.00 (2.14)	Company size	2.14 (1.25)		
Outcome Variables							
Dynamic Capability	2.25 (.20)	Success in ACM	2.50 (.77)				
ACM-Strategies TOP 4							
Prevention	3.71 (1.11)	Sanction	2.88 (1.89)	Toleration	2.57 (1.51)	Secrecy	2.00 (1.00)
ACM-Instruments TOP 4							
Legal	3.63 (1.41)	Management oriented	2.38 (.92)	Trade Secrets	1.88 (.84)	Technical	1.50 (.76)

1 = Means are shown with standard deviations given in parentheses

The low level of counterfeiting-specific intelligence generation and the low capability to develop suitable organizational structures hinder ACM. Procrastinators face serious problems when selecting and applying ACM instruments and when participating in ACM networks. The low levels of these capabilities may be caused by the surprise of being subject to counterfeiting, less specific knowledge, the limited availability of financial and specialized human resources due to the small size of the companies, or the sole concentration on evaluation. As a consequence, the development of relevant dynamic capabilities is low and success in ACM is low to moderate. Procrastinators have identified a problem and have begun anti-counterfeiting, but they are unable to develop adequate company-wide solutions. Therefore, external aid or specialized service providers are needed.

Group 4 (ACM C4, table 13) is the "secret keepers" and contains the victims of counterfeiting. This group mostly consists of smaller SMEs, and product piracy seems to be a larger threat than are trademark counterfeits. The success of secret keepers is low to very low. Several reasons for such low success can be identified. First, they are unable or unwilling to protect themselves because they lack all necessary anti-counterfeiting capabilities. Thus, they are unable to learn and to develop dynamic capabilities. Furthermore, they mainly rely on secrecy as a dominant strategy, but they are unable to combine the necessary legal or technical instruments. In addition, they tolerate counterfeiters and do not try to actively sanction them. Since secret keepers' capabilities for networking are low, cooperation with competitors or governmental authorities to overcome weaknesses is not possible or is undesired by the management team. This can also be described as the traditional view of ACM, in which rights holders consider the counterfeiting phenomenon a disgrace or fear openly communicating the problem to consumers.

Table 13: Profile of "secret keepers"

Clustering variables in ranked order[1]							
1. Evaluation Capability	1.48 (.45)	2. Strategic Capability	1.89 (.69)	3. Reporting Capability	1.72 (.59)	4. Intelligence Capability	1.75 (.47)
5. Organ. Capability	1.89 (.69)	6. Instrumental Capability	1.69 (.51)	7. Networking Capability	1.73 (.52)		
General Descriptives							
Product Piracy	3.26 (1.40)	Trademark Piracy	2.70 (1.38)	Company size	1.94 (1.10)		
Outcome Variables							
Dynamic Capability	2.00 (.54)	Success in ACM	1.69 (.77)				
ACM-Strategies TOP 4							
Secrecy	3.08 (1.47)	Toleration	2.59 (1.56)	Prevention	2.30 (1.03)	Sanction	2.11 (1.42)
ACM-Instruments TOP 4							
Trade Secrets	2.68 (1.52)	Legal	2.19 (.85)	Management oriented	2.12 (.82)	Political	1.38 (.80)

1 = Means are shown with standard deviations given in parentheses

Group 5 (ACM C5, table 14) can be characterized as “fully integrated anti-counterfeiters”. Typically consisting of MNCs, they have developed high capabilities caused by being equally and highly affected by product and trademark piracy. Strategy formulation and instrument application are based on solid intelligence generation and dissemination. Supportive internal organizational structures and external networking further enhance ACM. Results from evaluating a specific counterfeiting situation and the ACM process itself provide the basis for ongoing activities. Consequently, dynamic capabilities in terms of adopting and developing the ACM system are high. The predominant strategies are prevention and sanctions with competitor cooperation as a complementary element. Secrecy and trade secrets are used less frequently. Toleration of counterfeiting is not considered a promising strategy. To protect against counterfeiters, multiple instruments are used with legal and management-oriented instruments as the primary sources. Political efforts and technical solutions regularly complement ACM. Although fully integrated anti-counterfeiters achieve the highest success and highest dynamic capabilities among all identified configurations, the final success still ranges from moderate to sometimes high.

Table 14: Profile of “fully integrated anti-counterfeiters”

Clustering variables in ranked order[1]							
1. Strategic Capability	4.60 (.39)	2. Reporting Capability	4.54 (.49)	3. Organ. Capability	4.44 (.42)	4. Intelligence Capability	4.41 (.41)
5. Networking Capability	4.21 (.52)	6. Evaluation Capability	4.07 (.61)	7. Instrumental Capability	4.16 (.49)		
General Descriptives							
Product Piracy	3.82 (1.46)	Trademark Piracy	3.98 (.97)	Company size	4.05 (1.12)		
Outcome Variables							
Dynamic Capability	4.11 (.50)	Success in ACM	3.24 (.69)				
ACM-Strategies TOP 4							
Prevention	4.72 (.45)	Sanction	4.47 (.99)	Competitor cooperation	3.68 (1.01)	Secrecy	1.94 (.89)
ACM-Instruments TOP 4							
Legal	4.68 (.62)	Management oriented	4.40 (.50)	Political	3.31 (.95)	Technical	3.25 (1.28)

1 = Means are shown with standard deviations given in parentheses

As shown above, five different configurations of ACM are identified. Therefore, RQ2 is addressed by the following proposition:

P 2.1.1 Anti-counterfeiters can categorized as networking enforcers, lone fighters, procrastinators, secret keepers, or fully integrated anti-counterfeiters

5.2 Comparison of the different configurations

The findings of the previous subsections imply the existence of five ACM configurations. They all have different competence settings, pursue different strategies, and apply various instruments. As table 15 shows, the identified types in the previous sections represent

distinctive configurations of ACM. All groups are different in size and are affected by product piracy (because there are no significant differences), whereas the effects of trademark piracy vary. Among the anti-counterfeiting strategies, cooperation with counterfeiters is low and not significantly different across the groups. Sanctions and prevention dominate with competitor cooperation as a supporting strategy. Except for secret keepers, toleration and secrecy are only used selectively. Most companies rely on formal legal instruments and managerial efforts for protection. The use of political instruments to complement anti-counterfeiting is dissimilar and low. Technological solutions or trade secrets are less used in most groups.

Table 15: Distances between the final ACM configurations

Cluster	1	2	3	4	5
ACM C1		2.24	3.54	4.87	2.28
ACM C2			1.93	2.98	4.32
ACM C3				2.73	5.42
ACM C4					7.12

The results for current success and dynamic capabilities as outcomes differ. Fully integrated anti-counterfeiters seem to achieve the highest success followed by lone fighters and networking enforcers. Nevertheless, all of them achieve only a moderate to sometimes high level of success. Procrastinators are able to protect themselves on a low to moderate level, and secret keepers are relatively unable to combat counterfeiters. In terms of dynamic capabilities, fully integrated anti-counterfeiters and networking enforcers are at a high level, allowing for future and cross country success because they can adopt the anti-counterfeiting system to different counterfeiters, national enforcement systems, or industry sectors. Lone fighters may be able to remain at their present levels, whereas procrastinators and secret keepers might have more serious problems. It can also be assumed that competence building is easier for larger companies because they possess more resources and specialization advantages.

Table 16 associates clusters with different country groups, selected industry sectors, and life cycle stages. Because Fisher's exact test is significant for all variables, a random distribution can be rejected (Field 2009). All groups start anti-counterfeiting in the R&D or market introduction phase and concentrate their efforts on upper-middle economies (which serve as main production and distribution countries) and high-income OECD economies (which serve as target markets for counterfeits). The different ACM configurations vary across industry divisions. In some divisions, a dominant type is identified or several configurations are present. For instance, in the field of machinery and equipment, all types of ACM can be found with networking enforcers dominating, whereas fully integrated anti-counterfeiters account for the majority in the electronic and optical products industries. For RQ3 and P3, the following propositions can be suggested:

P 3.1 *Short term success and long term capability development can be used to contrast ACM performance. Among the identified configurations, fully integrated anti-counterfeiters are ranked best, followed by lone fighters and networking enforcers. Procrastinators and secret keepers have low or very low success. Nevertheless, overall average success is moderate, and larger companies seem to be more successful.*

P 3.2 *ACM seems relevant to counterfeit manufacturing and distribution (e.g., People's Republic of China) in upper-middle economies and to distribution markets in high-income OECD economies.*

P 3.3 *Most companies start ACM with market introduction followed by market growth, R&D, and market maturity. The most successful clusters start ACM as early as possible.*

P 3.4 *The presence of specific ACM configurations differs across industry divisions.*

Table 16: Countries, industries, and timing of ACM

Variables	ACM C1	ACM C2	ACM C3	ACM C4	ACM C5
Country (counts)					
Low-income	1	0	0	0	0
Lower-middle-income	0	3	0	0	0
Upper-middle-income	52	24	6	14	28
High-income non-OECD	1	0	0	0	1
High-income OECD	11	5	2	12	12
Selected industry divisions (counts)					
Beverages	0	2	0	0	0
Tobacco products	3	0	0	0	2
Textiles	3	0	1	2	1
Wearing apparel	0	0	0	0	5
Chemicals	1	1	0	2	0
Pharmaceuticals	6	0	1	0	3
Fabricated metal products	6	0	0	0	0
Electronic & optical products	1	4	0	3	10
Electrical equipment	7	5	1	0	0
Machinery & equipment	16	7	3	7	4
Motor vehicles	4	1	1	1	3
Other transport equipment	1	2	0	1	3
Furniture	4	5	0	1	1
Other manufacturing	4	3	1	2	2
Start of anti-counterfeiting by product life cycle stage (counts)					
R&D	9	1	0	0	23
Market introduction	31	13	1	4	9
Market growth	17	12	4	8	4
Market maturity	8	3	2	2	2
Market decline	0	0	0	2	0

6 Implications and conclusion

As outlined in the introduction, this study is based on three research questions designed to explore and enrich the ACM knowledge. The two-stage mixed-methods research approach is rooted in the concepts of strategic-group configurational research and the resource-based

view of the firm. In phase 1, RQ1 (concerning an underlying framework to develop an understanding of ACM) is analyzed by a literature review and an extensive qualitative content analysis of transcripts derived from expert interviews. These results are used to develop a competence-based framework that includes several outcome and descriptive variables. RQ2 and RQ3 (concerning ACM varieties and performance differences, respectively) are addressed in phase 2. To further empirically derive and explore configurations, a quantitative approach based on survey data and clustering procedures identifies five ACM configurations. All groups are characterized by their capabilities and further explored by relevant strategies and instruments. The configurations are contrasted by two performance measures and are linked to country, product life cycle, and industry variables.

Although the findings of this study provide in-depth information about ACM, there are some limitations. Companies are unwilling or unable to disclose budgets or more precise information about their efforts. Relying on questionnaires can cause two problems. First, information may be biased by anti-counterfeiters as respondents. Second, counterfeiters who are able to hide their operations (especially in organized crime syndicates) are likely to be underrepresented as cases within this study. Furthermore, the results are based on measurements from a single time point. A repeated-measurement design can help to contrast time-related effects. The identified configurations may be limited in terms of stability because Rand's Index is satisfactory but not very high.

Despite the mentioned possible limitations, the findings and propositions of this study are relevant for research in, management of, and policy concerning (anti-) counterfeiting. Research faces the challenge of insufficient available information. A mixed-methods design can be a promising but time-intensive approach to explore the topic in more detail. Researchers are able to control data during the qualitative stage and can enlarge, integrate, and contrast the insights with results from quantitative approaches. ACM recommendations are often based on frequency of use without taking underlying capabilities and configurations into account. In addition, performance measures are not applied to contrast differences between companies. Therefore, this study demonstrates that companies differ in ACM capabilities. The configurations of the different clusters also indicate that strategies and instruments are linked to these capabilities. As a consequence, all recommendations of protection strategies and countermeasures can be questioned if the type of anti-counterfeiter is not considered. Consumer-oriented, counterfeiter related, and environmental factors can further improve the analysis. Such factors imply the need for multidimensional constructs in ACM research. If the number of observation points is large, a hierarchical model may also help to further contrast country, industry, and corporate effects (Ketchen/Shook 1996). While the existence of configurations is shown, how the different elements interact remains unclear

(Fiss 2007). Although studies about company- or industry-specific solutions provide helpful information, an overall assessment beyond best practices is needed. Afterwards, benchmarking can be applied and both specific configurations and theory building can be improved.

Besides the already suggested propositions, companies should evaluate themselves to understand possible options for and limitations of corporate anti-counterfeiting. Thus, capability development is needed to compensate for weak points. Overall, legal and managerial instruments dominate while technical solutions lag. Political efforts seem to be only possible for MNCs, but SMEs may also profit from such efforts. As larger SMEs and MNCs seem to have superior performance, smaller or less successful companies should try to adopt the solutions of these larger firms or establish anti-counterfeiting networks to leverage ACM. To avoid losing focus, the most successful companies employ a limited number of multiple instruments. From a strategic perspective, the combination of sanction and prevention seems promising. Complete secrecy is not advisable. Without strategy formulation, a basic orientation for anti-counterfeiting efforts is missing. Companies should consider their own organizational configuration and the types of counterfeiters they may face. From a policy perspective, it should be noted that while some ACM configurations offer potential success, overall corporate success is moderate, implying the need for supportive governmental efforts. Even if less successful companies trying to learn from more successful companies, the willingness of these more successful companies to participate in knowledge dissemination is limited. Thus, business sector associations or public private partnerships may help to improve ACM. By applying configurations, a more precise governmental support could be enhanced.

To conclude, this study is the first to classify anti-counterfeiters and link them to outcome variables. Therefore, the propositions of this study are highly exploratory in nature, and further cross- or single-industry investigation is needed. Nevertheless, insightful information is provided and hopefully helps to improve future theory building and practical anti-counterfeiting to protect consumers, business, and society.

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Appendix A

Scale items for grouping, outcome, and descriptive variables

Construct	Items
Grouping Variables	
ACC Anti-Counterfeiting Competence, CA[2] = .95	
ACC_1 Information, CA = .81 - Human Intelligence[4] - Monitoring[5] - Intelligence generation[4]	- Does the OEM[3] verify information through internal and/or external experts? - Does the OEM use a monitoring system for counterfeiters? - Please assess the OEM's competence of intelligence generation for anti-counterfeiting.
ACC_2 Strategy, CA = .84 - Resource allocation[4] - Top management support[4] - Strategy formulation[4]	- Please assess the OEM's competence of providing sufficient resources for establishing and implementing protection strategies. - Please assess the OEM's Top-Management-Support for anti-counterfeiting activities. - Please assess the competence of strategy formulation for anti-counterfeiting.
ACC_3 Organization, CA = .92 - Process[5] - Structure[6] - Decision making[5] - Experience[7] - Organization in general[4]	- Does the OEM have standard anti-counterfeiting procedures? - How does the OEM organize its anti-counterfeiting staff? - Does the anti-counterfeiting staff/unit possess decision and managerial authority? - How long have the team members of the anti-counterfeiting unit been working together? - Please assess the OEM's competence of organizing for anti-counterfeiting.
ACC_4 Instruments, CA = .86 - Selection[4] - Implementation[4] - Customization/Reproduction[5] - Application[4]	- Please assess the quality of the OEM's protection instrument selection process. - Please assess the implementation of the OEM's protection instruments. - Is the OEM able to customize protection instruments to various counterfeiting issues? - Please assess the OEM's competence in applying anti-counterfeiting instruments.
ACC_5 Evaluation, CA = .79 - External evaluation[4] - Internal evaluation[4]	- Please assess the OEM's competence in evaluating counterfeiting. - Please assess the OEM's competence in evaluating anti-counterfeiting activities.
ACC_6 Networking, CA = .88 - General network[4]	- Please assess the OEM's competence in networking for anti-counterfeiting. - Please asses the OEM's participation in a formal or informal anti-counterfeiting expert network.

- Degree of participation[4] - Leading networks[4]	- Please assess the OEM's competence of leading and directing anti-counterfeiting expert networks.
ACC_7; Reporting, CA = .77 - Quality[4] - Frequency[8]	- Please assess the OEM's competence in reporting (anti-) counterfeiting. - Please describe the typical counterfeiting reporting frequency.
Outcome Variables	
SUC_Index4 Success in Anti-Counterfeiting, CA = .88 - Sales volume[5] - Counterfeit quantity[5] - Competitive advantage competitors[5] - Competitive advantage counterfeiters[5]	- Has the OEM been successful in stabilizing or stimulating sales due to anti-counterfeiting? - Has the OEM recognized a diminishing amount of counterfeits based on anti-counterfeiting? - Has anti-counterfeiting led to a better position of the OEM compared to legal competitors? - Has the counterfeiter changed the counterfeiting direction due to anti-counterfeiting activities of the OEM?
ACM_DC Dynamic Capability, CA = .86 - Reconfiguration[5] - Adaption[5] - Internal learning[5] - External learning[5]	- Is the OEM able to adjust its anti-counterfeiting system to changing environmental influences? - Is the OEM able to react specifically to various counterfeiter attacks? - Is the OEM able to learn from its own anti-counterfeiting experience? - Is the OEM able to learn from legal competitors' anti-counterfeiting activities?
General Descriptive Variables	
C_Type[4], CA = n/a	To what extent are the following type(s) of counterfeiting relevant for your answers? - Product Piracy - Trademark Piracy
ACM_ Size, CA = .87 - Employees[9] - Sales[10]	- What is the total number of employees of the OEM? - How much sales volume does the OEM generate?
Life Cycle[10], CA = n/a	- In which stage did the OEM start anti-counterfeiting?
Descriptive Variables	
ACM Anti-Counterfeiting Management	
ACM_Strategies[4], CA = n/a	Which of the following strategies did the OEM use in your chosen case? - Toleration of counterfeiters - Cooperation with counterfeiters - Cooperation with competitors - Prevention of counterfeiting - Sanction of counterfeiting - Secrecy in general
ACM_Instruments[4], CA = n/a	Which of the following instruments did the OEM use in your chosen case? - Legal instruments - Trade secrets - Management related instruments - Technical/technological instruments - Political instruments

1 = Standard deviation; **2** = Cronbach's Alpha; **3** = Original equipment manufacturer (= rights holder); **4** = anchors: 1 = "no/not at all," and 5 = "completely;" **5** = anchors: 1 = "very low," and 5 = "very high;" **6** = anchors: 1 = "no special attention to counterfeiting;" 2 = "one person serves as anti-counterfeiting delegate," 3 = "case based non-permanent use of a task force," 4 = "permanent staff unit," and 5 = "permanent staff and functional units; " **7** = anchors: 1 = "< 1 year," 2 = "< 3 years," 3 = "< 5 years," 4 = "< 7 years," and 5 = "> 7 years;" **8** = anchors: 1 = "no reporting," 2 = "reporting on request," 3 = "automatic case based reporting," 4 = "sporadic reports about previous ongoing, and future activities," and 5 = "Periodic reports about previous, ongoing, and future activities," **9** = anchors: 1 = "0-499," 2 = "500-999," 3 = "1,000-4,999," 4 = "5,000-9,999," 5 = "10,000+," 10 = anchors: 1 = "0-499 Mio. US$," 2 = "500-999 Mio. US$," 3 = "1-4.99 Bn. US$," 4 = "5-9.99 Bn. US$," 5 = "10 Bn.+ US$," **10** = anchors: 1 "R&D," 2 = "market introduction;" 3 = "market growth," 4 = "market maturity," 5 = "market decline."

Teil 3:

Theorie und Empirie

unternehmerischer Counterfeiting-Systeme

- Beitrag 7: Black-Box Fälscher? Praxis des Piraterie managements
- Beitrag 8: Exploring the supply side of counterfeiting: Strategies, instruments, and capabilities of counterfeiters
- Beitrag 9: Counterfeiting management configurations and their performance implications: Exploring strategies, instruments, and competencies

Exploring the supply side of counterfeiting: Strategies, instruments, and capabilities of counterfeiters

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Intellectual Property Infringement, Counterfeiting Management, Resource Based View of the Firm, Qualitative Research, Exploratory Study

Abstract
Counterfeiting has become a multi-billion industry but insights into the supply side of counterfeiting are very limited. Using the resource based view of the firm this paper explores how counterfeiters conduct their business. Specifically, we address two research questions. Which strategies and instruments underpin the competitive position of counterfeiters? What determines the competencies of counterfeiting management? We conduct an explorative study using 230 expert interviews, 70 case studies, and internal information of intellectual property owners, service providers, governmental authorities, and research institutions. We present a process oriented view of counterfeiting management and develop a competence based framework for analyzing counterfeiters. The results indicate that counterfeiters use primary and supporting activities to conduct their business and act in international networks. Counterfeiters are successful if they are able to identify, integrate, transform, and exploit knowledge derived from rights holders while they have to mask their activities and organize their network.

1. Introduction: Counterfeiting in innovative industries

From a strategic management perspective, market entry and competition strategies are either based on innovation or on imitation. Companies can create innovation as the first utilization of a new combination of productive (in-)tangible resources to provide products and processes (Schumpeter 1934) to gain first mover advantages through temporary monopolies e.g. by filing intellectual property rights (Lieberman/Montgomery 1988; Nelson/Winter 1982; Porter 1980, 1985; Schumpeter 1934, 1950). Imitation provides a competitive response of later market entrants (D'Aveni 1994; Lee et al. 2000; Levitt 1966; Lieberman/Montgomery 1988; Mansfield et al. 1981; Porter 1980, 1985; Schnaars 1994; Schumpeter 1934, 1950). Depending on a company's strategic behavior, both strategies can enable competitive advantages (Lee et al. 2000) and imitation may even lead to a superior competitive outcome (Baldwin/Childs 1969; Buggie 1982; Connor 1988; Cooper 1981; Ethiraj/Zhu 2008; Markides/Geroski 2005;

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Schnaars 1994). According to Schnaars, *"[i]mitation runs the gamut from surreptitious and illegal duplicates of popular products to truly innovative new products that are merely inspired by a pioneer brand. […] Much of the negative image attached to imitative products results from the illicit actions of counterfeiters."* (Schnaars 1994, p. 5). Counterfeiting can be defined as "*[a]ny unauthorized manufacturing of goods whose special characteristics are protected as intellectual property (trademarks, patents and copyrights) […]"* (Cordell et al. 1996, p. 41). In addition, the infringement of laws against unfair competition and the violation of licensing agreements must be added as counterfeiting actions (Yang et al. 2004). Following these definitions, imitation has to be separated into legal imitation and (un-) intentional illegal commercial counterfeiting of physical products, intangible assets (e.g. trademarks), and services. The present study focuses the intentional, illegal, and commercial violation of intellectual property rights by counterfeiters. Counterfeiting is not a new phenomenon (Chaudhry et al. 2009; Johns 2009; Phillips 2007), but its volume has increased considerably over the past decade. Trade with illegal counterfeited products accounts for one to seven percent of the world trade volume today and has become a seller and buyer driven professional multi-billion dollar business (Chaudhry 2006; Frontier 2011; ICC 2007; OECD 2008, 2009; Paradise 1999; Staake/Fleisch 2008; Stumpf/Chaudhry 2010). Counterfeiters put pressure on the profitability of R&D and trademark investments of R&D intensive firms and intellectual property owners (hereafter rights holders) as they illegally benefit from their efforts. Moreover, additional anti-counterfeiting drive the overall costs of rights holders. Counterfeits also confuse or even harm consumers, e.g. in the pharmaceutical industry and undermine trust in brands (Hopkins et al. 2003; Lybecker 2007; Trott/Hoecht 2007). The society suffers from increased unemployment and governmental revenues decrease. Given the negative aspects mentioned above, it is surprising that counterfeiting management research in academic literature is very limited (Staake et al. 2009). To address this shortcoming, we first review all the existent academic literature

that addresses the micro-level of the supply side of counterfeiting to provide a starting point for our empirical investigation. Second, we use qualitative expert interviews and case studies to explore and develop a deeper understanding of counterfeiting management on a corporate level. The rest of the article is organized as follows. Section 2 provides a thorough literature review of research on the supply side of counterfeiting to derive the research questions. Section 3 introduces the methodology and gives an overview of the empirical sample. Section 4 reports on the findings of our empirical study which then leads to the discussion of these results in section 5. The implications follow in section 6.

2. Literature review: Counterfeiters in management literature

The subsequent literature review focuses supply side investigations on counterfeiters‘ characteristics, strategies and operations. We employed the keywords “counterfeiter”, “trademark piracy”, “product piracy”, “illegal imitator”, and “pirates” in combination with “strategy”, “instrument”, “process” “organization”, “resource” and “competence” in electronic journal databases for reviewed journals (EBSCOhost Business Source Premier and ScienceDirect) and included textbooks that focus on counterfeiting in English language.

2.1 Strategies of counterfeiters

Depending on the way counterfeiters obtain their relevant knowledge, Harvey/Ronkainen 1985 and Harvey 1987 distinguish between two basic types. Direct counterfeiting is based on the explicit involvement of the counterfeiter in the theft or duplication of the product. Counterfeiters that use an indirect counterfeiting strategy employ a third party to steal product information or specifications (Harvey 1987; Harvey/ Ronkainen 1985). Hopkins et al. 2003 and Grossmann/Shapiro 1988 describe consumer oriented strategies. Counterfeiters produce and sell deceptive and non-deceptive counterfeits. A deceptive strategy aims at hiding the illegal origin of the products. Using a non-deceptive strategy, counterfeiters do not hide the true character of the counterfeits at least while facing consumers. A few insights into the counter-

feiting business model and corresponding production strategies could be found in the literature (Berman 2008; Chaudhry/Walsh 1996; Harvey 1987; Yang et al. 2004). According to these publications, the business models and production strategies of counterfeiters vary in terms of quality, functionality, pricing, and the presentation or shape of the product. They choose between different product types, such as true counterfeits which resemble original products as much as possible by using the same brand name or look-alikes (knockoffs) which come close to the original product but use a different name to avoid trademarks. For distribution strategies, counterfeiters can often rely on the cooperation of wholesalers, retailers, or end users (Bush et al. 1989). Legitimate channel members actively purchase counterfeits to improve profits. Counterfeiters and their products coexist in final and intermediate markets as well as in the legal supply chain. They can act on single, several, or on all steps of the supply chain and cooperate with each other or may be part of organized crime syndicates (Green and Smith 2002; Hopkins et al. 2003).

2.2 Specific tactics and instruments deployed by counterfeiters

Counterfeiting instruments are mentioned in almost all publications related to (anti-) counterfeiting but only a few publications describe counterfeiting instruments in more detail. These measures could be divided into masked operations, illicit lean production and (il-)legal learning tactics. To mask their operations, counterfeiters use “front” companies, “front” personnel for registration, subcontractors, and political influence to protect illicit companies or “secret” subsidiaries that produce counterfeit products. In terms of logistics, they ship products from sub-contractors via freight forwarders so that it is more difficult to tie the counterfeiter to the seized products. False product names are used in production, sales, and inventory records to hinder governmental authorities. Counterfeits are shipped along with gray market goods (goods purchased through unauthorized channels) and are sold openly via street vendors or over the internet. The use of trademarks of legitimate manufacturers and distributors on web-

sites make small firms appear to be subsidiaries of major corporations, and even mask the country where the goods are purchased. Payment is often made to third parties. To make civil or criminal cases more difficult, many counterfeiters will not provide samples and only produce counterfeits to order because a sample of a counterfeit product is needed for prosecution. For illicit lean production, low levels of inventory and separated facilities for production and storage enable counterfeiters to minimize losses and penalties. Illegal second or third shifts produce counterfeits based on existing supplier contracts that rights holders are unaware of. (Il-) licit learning tactics comprise reverse engineering, contract manufacturing, and positioning as importer. Joint ventures are used to learn and understand underlying technologies or production processes (Berman 2008; Green/Smith 2002; Hung 2003; Minagawa et al. 2007; Naim 2005).

2.3 Organizational typologies of counterfeiters

Up to now, only little research has been conducted to identify and describe different types of counterfeiters and their organizational structures (Staake/Fleisch 2008; Staake et al. 2009). Such holistic approaches try to integrate the insights on different strategies, tactics and instruments of counterfeiters and thereby synthesize typologies to identify various 'ideal' types of counterfeiters. Indeed, only two academic approaches analyze counterfeiters from the outside perspective of the rights holders that are 'attacked' by counterfeiters. On a conceptual level, Trott/Hoecht 2007 distinguish between two types of counterfeiters based on five elements, namely the objective of counterfeiting, the counterfeited product, the strategy, the effects on rights holders, and the attractiveness for consumers. The first type consists of passive imitators and counterfeiters that strive for quick profits from low quality imitated goods for short term gains without repeated consumer interactions. The second type includes potential collaborators with "copy and develop" capabilities. Staake/Fleisch 2008 provide insights from expert-interviews with nine managers to derive product related (visual and functional quality,

product complexity, potential loss or danger for the user, and the degree of conflict with the law) and company specific variables (estimated investment in production facilities and organization, estimated product and brand specialization, and estimated output with applied production technology). These variables were used to conduct an analysis of 128 counterfeits with experts from rights holders. Five different types of counterfeiters were identified in this explorative study. For instance, disaggregators are engaged in the production of average functionality and quality with a low to average complexity. They seem to focus on earnings from brand- name-related counterfeits with minimal investments in production facilities.

2.4 Summary of the extant literature and research questions

The available literature demonstrates important elements of counterfeiting management: There are multiple types of counterfeiters who act along the whole supply chain and use strategies and instruments to pursuit their objectives in a professional manner. Strategy formulation includes all stages of the supply chain, knowledge acquisition, geography, production, distribution, customer, and cooperation. Counterfeiters try to decrease prosecution and adopt multiple instruments as part of their strategies. Table 1 shows a summary of the findings. From the literature review conceptual, theoretical, and empirical research gaps become evident: On a conceptual level, the supply side of counterfeiting has never been investigated using a counterfeiting management perspective. Besides the studies already mentioned, there are no publications in the scope of our search that cover internal and external organizational structures (apart from the supply chain considerations of Staake/Fleisch 2008 and Hopkins et al. 2003), or counterfeiting management processes. Counterfeiting capabilities are only loosely mentioned in terms of production, technology, or distribution (Staake/Fleisch 2008; Trott/Hoecht 2007). On a theoretical level, only one publication is explicitly addressing strategic groups as a theoretical foundation in management science. Nevertheless, counterfeiting management is not analyzed in more detail. From an empirical perspective, research designs

for exploring counterfeiting have to rely on an indirect approach for data generation. Qualitative research designs using case studies to describe individual issues and expert interviews dominate.

Table 1: Elements of Counterfeiting Management

Element of Counterfeiting Management	Dimension	Theoretical/ Empirical foundation	Authors
Counterfeiting Strategy formulation	(In-)direct knowledge acquisition; (Non-) deceptive consumer orientation; Counterfeit manufacturing; Counterfeit distribution	Theoretical: Equilibrium Model	Berman 2008; Bush et al. 1989; Chaudhry/Walsh 1996; Green/Smith 2002; Harvey 1987; Harvey/Ronkainen 1985; Hopkins et al. 2003; Grossmann/Shapiro 1988; Yang et al. 2004
		Empirical: company example, cases study, expert interview	
Counterfeiting Instruments	Masking the illegal origin, knowledge acquisition, logistics, distribution	Theoretical: -	Berman 2008; Green/ Smith 2002; Hung 2003; Minagawa et al. 2007; Naim 2005
		Empirical: Case study, expert interview	
Counterfeiter typology and structure	Supply Chain; passive imitators; possible collaborators; disaggregators, imitators; fraudsters, desparados, smugglers	Theoretical: strategic groups	Hopkins et al. 2003; Staake/Fleisch 2008; Trott/Hoecht 2007
		Empirical: Expert interviews, cluster analysis	

Addressing the conceptual and theory-based research deficits, we focus on an exploratory research design: Backed up by the resource-based view of the firm (RBV), appropriability regimes, a firm's (core-) competencies, and dynamic capabilities enable competitive advantages (Barney 1991; Dierickx/Cool 1989; Eisenhardt/Martin 2000; Grant 2008; Helfat et al. 2007; Penrose 1959; Prahalad/Hamel 1990; Rumelt 1984; Teece 2000; Teece et al. 1997; Wernerfelt 1984). Thus, appropriability regimes determine advantages for innovators, legal imitators, or illegal counterfeiters. Intellectual property rights, especially in developing and transition countries, do not hinder counterfeiters (Arundel 2001; Chaudhry/Zimmerman 2009; Harabi 1995; ICC 2007; Levin et al. 1987; OECD 2008; Sattler 2003; Yang/Kuo 2008). Besides the country specific enforcement of intellectual property rights (Keupp et al. 2009, 2010; Shultz/Saporito 1996), counterfeiters use strategies and instruments which depend on specific capabilities and competencies in generating counterfeiting supply to compete with original product manufacturers (Chaudhry/Zimmerman 2009, Staake/Fleisch 2008; Trott/Hoecht 2007) as foundation for a counterfeiting competitive advantage. Absorptive capacity deter-

mines whether followers in terms of innovation have the potential capacity to acquire and assimilate knowledge of others as well as realized capacity to transform and exploit that knowledge into an output, e.g. products (Zahra/George 2002; Cohen/Levinthal 1989, 1990). We assume, that counterfeiters as followers in terms of innovation need the potential capacity to acquire and assimilate knowledge of others as well as realized capacity to transform and exploit knowledge for counterfeiting. Following these definitions, we define counterfeiting management as a bundle of strategies, instruments, organizational structures, and competencies of counterfeiters for infiltrating existing legitimate markets without own R&D investments before, at the time, or after a new legal original product is available. Thus, we strive to a) sum up the advantages and disadvantages of counterfeiters compared to legal competitors, b) collect and understand their strategies, value chains structures, and instruments as well as c) explore the underlying competencies of counterfeiting management.

3. Data and methods

This section includes information concerning instrument selection, data collection, sample overview, and data analysis of this study.

3.1 Instrument selection

For the subsequent qualitative data collection, several sources of information are combined to ensure an adequate triangulation of information (Cassell/Symon 2009; Creswell 2009; Denzin/Lincoln 2011; Rubin/Rubin 2005). We concentrated on four criteria for the selection of our research instruments. First, in this illegal context, access to 'honest' information and confidentiality issues are significant problems in this sensible field of affairs and a trustworthy data collection is of critical importance. Nevertheless, the need to understand selected issues and problems of one-sided information still can occur. This is important because informants should be able to reflect on or add important issues to this study. Thus, flexible research instruments which allow the addition of emerging questions during the data collection process

had to be selected (Denzin/Lincoln 2011). Second, counterfeiters cannot – or only to a limited extent – be observed or questioned directly (Staake/Fleisch 2008). Third, data bases for counterfeiting issues on corporate level are not available. As a consequence, the provision of indirect insights into historical and everyday (anti-) counterfeiting practices is needed. Therefore, indirect information requires the control of the data collection for the researcher. Fourth, there is only a limited amount of literature that directly investigates counterfeiters to construct a closed research design for a quantitative research approach. Thus, counterfeiting management can be characterized as a research field that is new, poorly understood in terms of variables, hard to catch, and difficult to investigate. This implies the utilization of a qualitative research approach. Compared to a quantitative approach, an inductive emergent research design allows both, the establishment of a basic framework at the beginning of the research process and the inclusion of elements that arise from new insights based on midterm findings (Creswell 2009; Cassell/Symon 2009; Denzin/Lincoln 2011). In our study we employ multiple qualitative instruments including (1) expert interviews and interview transcripts, (2) case studies, and (3) internal documents. (1) Given its dominant position in addressing the problems mentioned above, the interview method was our primary form of data collection. Problems are indirect information that is filtered through anti-counterfeiters as informants, the lack of a natural setting, and articulative or perceptive differences of interviewers and interviewees (Creswell 2009). We selected in-depth semi structured interviews with industry, academic, and governmental experts that are confronted with counterfeiting to collect their specific knowledge. An interview guideline was used to ensure a structured interview process. (2) Case studies are useful to explain past or contemporary counterfeiting related situations and can describe operational interactions based on documents and interviews in more detail (Yin 2009). The cases in this study were used to clarify confusing or interesting information about counterfeiting management that arouse from expert interviews. (3) Internal documents consisted mostly of

presentations, anti-counterfeiting reports, and manuals on anti-counterfeiting processes, counterfeiting cases, and figures about estimated damages. This source was primarily used for clarification, validation, and understanding as the documents were not intended for public use.

3.2 Data collection

3.2.1 Interview guideline

Our interview topics were developed out of the extant literature and from our insights into anti-counterfeiting efforts of our interview partners. Existing literature indicates that some overlap in perspectives on counterfeiting, namely context, legal company, and illegal counterfeiter is needed to capture the phenomenon. Recognizing this point, the interview guideline explored these three key sections. As data collection and data analysis are a simultaneous process in qualitative research (Marshall/Rossman 2006), we tested our questions in the first draft with representatives of German industry associations. After two revisions, we prepared three main sections besides the heading: First, we started with an ice-breaker question about the counterfeiting phenomenon in general. We inquired about the context of a typical counterfeiting case in terms of economic, consumer, geographical, legal, product, social, and supplier aspects. In the second and third section, we concentrated on anti-counterfeiting respectively counterfeiting efforts. The section about counterfeiting contained the topics aims, competitive advantages, dynamic capabilities, competencies, strategies, instruments, processes, supply chain issues, and organizational structures. Speaking about counterfeiting and piracy is a very delicate and sensitive topic for the rights holders. To ensure that the informants speak freely, based on their best knowledge, and experience, the interviewees could emphasize questions and the interviews were conducted at the preferred location of the interviewees.

3.2.2 Interview procedure

The interview procedure was divided into three stages. Stage one included the preparation. To avoid a researcher bias, we worked together with 40 different interviewers, trained them in

conducting and transcribing expert interviews, and used an interview guideline (Creswell 2009). The informants received their version two days in advance of the appointment to prepare themselves without having too much time to adjust the answers to their organization's policy and confidentiality agreements were signed. In stage two, the interview took place preferably in face-to-face communication with telephone interviews only as second-best solution. Interviewees were asked for permission to record the conversation to prevent data loss, facilitate transcription, and increase validity (Huberman/Miles 2002). Questions were open-ended and respondents were encouraged to enter into a dialogue in order to respond to the broad line of questioning in their own terms. Interviews took between one and three hours. Informants were encouraged to discuss counterfeiting cases not older than two years to avoid retrospective narratives. The focus on current incidents reduces inaccuracy due to hindsight as a potential validity threat when interviewees recall past events and subjectively modify them. To enhance reliability, each interview was attended by two interviewers. Stage three involved post-processing of the expert interviews. All interviews were transcribed by the interviewers immediately after the interview. Transcription rules required both interviewers to agree on the transcript. The completed transcript were sent back to the interviewees for verification. In case of misunderstandings, we conducted follow-up telephone calls for clarification to ensure reliability. The interviews are complemented by 70 business cases to highlight, validate, or identify additional elements.

3.3 Sample description

Facing the lack of literature and the problems in addressing counterfeiters directly, we focus on a high level of comprehensiveness and generalizability. In total, 280 interviews have been conducted from August 2007 to July 2010. The interviews have been reduced to 230 explorative interviews with 247 anti-counterfeiting experts of 183 companies and institutions. All experts had to meet one important criterion: They had to be directly linked to counterfeiting as

part of their work, irrespective of their hierarchical position. The experts covered a wide range of operating positions and hierarchical levels with counterfeiting experience from three months up to 15 years. Counterfeiting is a relevant topic ranging from temporary project management up to permanent CEO level. For some experts, we were not permitted to disclose their function as they belonged to governmental, private, or company prosecution functions. Table 2 provides a summary of the participating experts by function and the participating companies by ISIC Section, Revision 4 (UN 2008).

Table 2: Participating experts by function and companies by industry section

Function	*N*	*Share (%)*	*ISIC*[1]	*Section*	*N*	*Share (%)*
Management	38	15.4	C	Manufacturing	105	57.1
Law	36	14.6	F	Construction	7	3.8
Anti-Counterfeiting	24	9.7	G	Wholesale and retail trade; repair of motor vehicles and motorcycles	1	0.5
IP Management	22	8.9	H	Transportation and storage	8	4.3
R&D/TIM	20	8.1	J	Information and communication	15	8.2
Academic Research	13	5.3	M	Professional, scientific and technical activities	27	14.7
Marketing	9	3.6	N	Administrative and support service	1	0.5
PR/Communication	9	3.6	O	Public administration and defense; compulsory social security	2	1.1
Security	7	2.8	P	Education	1	0.5
Business Development	6	2.4	S	Other service activities	17	9.2
Sales	6	2.4				
Product Management	4	1.6				
Quality Management	4	1.6				
Management Accounting	3	1.2				
Others[2]	9	3.6				
No Permission	37	15.0				
Total	**247**	**100**			**184**	**100**

1 = International Standard Industrial Classification of All Economic Activities; 2 = Foreign Affairs, Statistics, Production/Manufacturing, Key Account Management, Informatics, Parts, and Project Management

To gather experience from various actors and functions, this study includes experts from three main areas, namely manufacturing companies, service providers (e. g. lawyers, consultants, private investigators, etc.), business associations, and institutions like universities or governmental authorities. We started with German business associations (section S), researchers, and service providers (both section M) to acquire information about the relevance of our interview topics, to include the industry sector perspective, and to collect recommendations for industry experts. The emphasis – in terms of participating organizations – was put on manufacturing companies (section C) as this sector is a main target of counterfeiters and its day-to-day busi-

ness includes the confrontation with counterfeiting. Within section C, the sample includes R&D intensive patent-based high technology firms from the industrial goods sector, trademark based firms that belong to the consumer goods sector, and generic as well as customized products of mainly multinational companies. We cover original equipment manufacturers as well as first and second tier suppliers. Table 3 shows section C on 3-digit-level.

Table 3: Manufacturing on firm level

Group	*N*	*Share (%)*	*Average Sales (m EUR)*	*Average Employees (#)*	*Average R&D (m EUR)*	*Average Subsidiaries (#)*
Other n=1 (e.g. Beverages, Textiles)	6	5.7	8,477	25,619	442	28
Other n=2 (e.g. other non-metallic products, sports goods)	17	16.2	11,304	45,424	1,217	31
Other n=3 (accessories for motor vehicles, other manufacturing)	12	11.4	8,911	42,539	1,159	51
Electronic components and boards	4	3.8	455	1,928	not reported	50
Domestic appliances	4	3.8	2,000	12,441	not reported	37
Pharmaceuticals	7	6.7	15,908	44,012	1,891	208
Other fabricated metal products	7	6.7	1,815	6,225	16	35
Furniture	7	6.7	370	4,325	43	35
Medical and dental instruments and supplies	8	7.6	9,058	88,078	895	28
Special-purpose machinery	10	9.5	541	2,334	66	38
General-purpose machinery	23	21.9	4,600	25,385	632	79
Total/Average	**105**	**100**	**5,767**	**27,119**	**707**	**56**

3.4 Data reduction and data analysis

The large amount of data gathered had to be reduced to derive focused conclusions (Lee 1998). Nevertheless, data need to be rich and extensive enough to enable an adequate account of contextual information (Richards 2005). In this study, the transcripts contain more than 1,300 pages, the cases studies include 350 pages, and the internal documents add another 300 pages. Data analysis is based on qualitative content analysis method. In this context we relied on an inductive approach to develop and summarize categories for context analysis, and deductive category application are used (Mayring 2000, 2002). We aimed at structuring the data for content filtering to deduce the elements of counterfeiting management. To achieve this goal, we started with defining the counterfeiting phenomenon, discussing anti-counterfeiting, and exploring actions of counterfeiters. To make sense of the data, a category system for data coding was used, a process that connects keywords (“codes”) to words, sentences, or para-

graphs (Creswell 2009). We arranged the first category system based on the main-categories already mentioned in section 3.2.1. Open coding was used to create sub-categories to integrate the various dimensions of each main-category or to add main-categories. We revised the coding system five times during data analysis by merging, adding, or separating the extracted passages. In order to handle that amount of data, we used MAXQDA (VERBI 2011) as software tool for qualitative data analysis. As quality procedures should include multiple elements that can occur throughout all steps in the process of qualitative research (Creswell 2009; Gibbs 2007; Lincoln et al. 2011), we arranged table 14 in the appendix to sum up our way of quality assurance.

4. Results

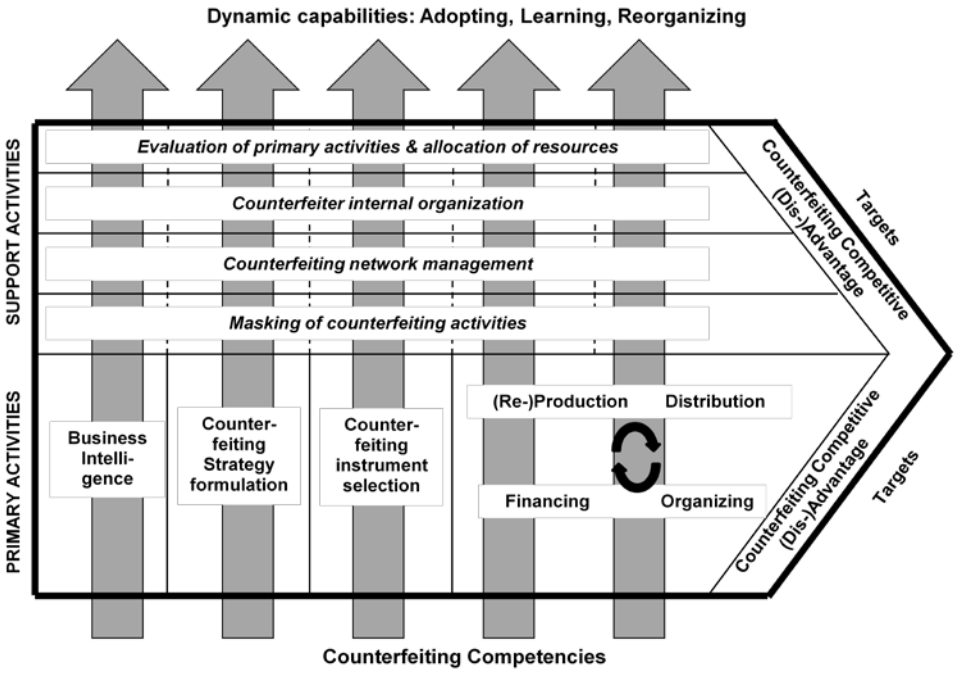
This section reports our findings for counterfeiting management compared to rights holders. We did not focus on the competition between counterfeiters. Each subsection provides the different units of analysis of counterfeiting management. The experts delivered information about competitive (dis-)advantages and aims of counterfeiters, supply chain elements, strategy formulation, organizational structures, instruments, process, and competencies. According to the experts, a generic framework that includes a management perspective is a good starting point for summarizing a company's knowledge about the issue and analyzing counterfeiters in more detail. Thus, a basic framework should take all possible elements into consideration to understand the way a counterfeiter is doing business. They position such a framework as a strategic tool rather than an operational instrument. Furthermore, an industry sector specific adoption is needed. After the introduction of the basic framework, we will present selected elements in more detail.

4.1 Insights into counterfeiting management

Based on the results of the content analysis of the transcripts and the cross-case analyses we focus on a combination of a process and competence oriented view in figure 1. As interview

partner 136 (private investigator) explains: "*You can identify methods and aims from the modus operandi*."[2] The modus operandi of a counterfeiter can be divided into (1) primary and (2) supporting activities that enable a counterfeiter to establish, gain, defend, or prolong a counterfeiting competitive advantage.

Figure 1: A basic framework for counterfeiting management analysis



(1) The primary activities directly address the different stages of counterfeiting value creation. Like legal firms, counterfeiters have to generate business intelligence, formulate strategies, select instruments, start the core counterfeiting activity, specifically (re-)production, financing, distribution, or organization, and disseminate the results of their activities. (2) The supporting activities are not involved in the direct value creation process and are not limited to a single stage. These activities enable a counterfeiter to perform primary activities and include the masking of counterfeiting activities, counterfeiting network management, internal organization structure, and the evaluation of the activities as well as the allocation of specific resources to realized the counterfeiting business model. In addition, not only the primary and

[2] All translations made by the authors.

supporting activities may help to understand counterfeiting management but also the underlying competencies should be explored. As expert 138, a corporate security manager, specifies: *"Not only the physic counterfeits matter, counterfeiters need know-how and specific capabilities for development."* Thus, we derived and discuss a competence setting from the transcripts that allows a more detailed analysis of counterfeiting management in section 5.

4.2 Competitive (dis-)advantages and targets of counterfeiters

4.2.1 (Dis-)Economies of counterfeiting

The first step includes the analysis of a counterfeiter's competitive position and agenda compared to rights holders. In general, counterfeiters in our study have several (dis-)advantages that can be divided into what we call economies and diseconomies of counterfeiting. Economies of counterfeiting include free rider effects, economies of scale and scope, and the possibility for cost degression. In line with OECD 2008, counterfeiters can free-ride on the creative and economic efforts of legitimate companies' technology and market development efforts. At least two sources of economies of scope are at hand: Counterfeiters can use their existing knowledge from legal activities for illegal production (e.g. factory overruns) or they can use their experience from one counterfeiting case for other illegitimate actions. For instance, in case 16 a Chinese company acted as a contract based legal supplier for a German manufacturer of machinery equipment in China. After half a year, the supplier produced factory overruns in night shifts and sold them to customers of the rights holder. Case 54 illustrates how a counterfeiter in Russia illegally imitated patent protected filters using the rights holder's trademark. The company diversified afterwards into trademark counterfeiting for engine oil which was never produced by the rights holder. Diseconomies of piracy mark general disadvantages. These costs include investments for identifying suitable objects for counterfeiting (e.g. market analysis, bribery), knowledge acquisition, adoption and production. Moreover, counterfeiters face a risk premium (discount) for illegality and have to save reserves for confiscated prod-

ucts or lawsuits. Additional costs arise due to masking and securing the illegal supply chain. As specific competitive advantages the experts identified cost advantages, speed and flexibility, being unknown, and the utilization of legal uncertainty respectively illegality. Intentional illegality and cost advantages are the core elements of the business model. Illegality allows a flexible strategy formulation and the utilization of legal uncertainty as well as the chance to take advantage of a low enforcement. Counterfeiters have a better cost position of avoiding investments associated with legal competition (e.g. preproduction costs, consumer and employee safety, taxes), and profiting from low labor costs by offshored production. Speed and flexibility are seen as another competitive advantage as counterfeiters are mainly focusing on well established markets, a product's shape, not on functionality, lean production lines, less administration, and easily exchangeable workforce. Being unknown is seen as a temporary advantage that is based upon the existing ignorance of rights holders, distributed production facilities, a high international division of value creation and masking capabilities. The overall motives for counterfeiting include five possible agendas. Besides profit motives and the aim to close technological gaps, the experts reported three additional motives: Some counterfeiters try to position themselves as suppliers for the rights holder's competitors. Companies can use counterfeiting not only for technological but also for market or customer oriented learning as a way to become a legal competitor on global markets. Furthermore, counterfeiting can be used as a well-directed instrument of governments predominantly in developing countries to harm a legal company or strengthen and protect industry sectors.

4.2.2 Counterfeiting business models

We identified four basic counterfeiting business models which allow a more detailed analysis. Each counterfeiting entity can basically be characterized by a mixture of four basic positioning elements: (1) producing, (2) distributing, (3) financing, and (4) organizing. Table 4 provides a summary of the criteria for the four basic business model orientations that we could

identify in our study. Based on these four business model parameters, the type, importance, and position of a counterfeiter in the supply chain can be estimated by the rights holder.

(1) Counterfeit manufacturing refers to the degree of physical production of counterfeited goods and can include all or only several stages of an illicit value chain. This orientation leads to technological learning and the ability to offer different combinations of quality and functionality. Counterfeit producers can profit from mistakes in strategic management of rights holders concerning geographical filing, because they avoid legal prosecution as enforcement of laws against unfair competition is hard to prove for agencies. As specific disadvantages, the signaling of production performance, investments in production facilities, and the necessity for close networking with distribution partners arise. As a strong production orientation leads to investments into physical buildings, the ability to relocate production is important. Typically, counterfeiters with a high level of product orientation are located at some distance to the rights holder to avoid detection.

Table 4: Business Models in Counterfeiting

Orientation	Dimension	Advantages	Disadvantages
Counterfeit Production	- Ease of knowledge acquisition - Production capacity - Production know-how - Deliverable quality and functionality level - Boundness to physical production sites	- Cost structure - Technological Learning - Distance to rights holders - IP-mistakes of rights holders	- Dependence on other counterfeiting functions - Performance signaling
Counterfeit Distribution	- Market know how - Distribution capacity - Potential addressable market	- Market power - Low level of fixed costs - Market oriented learning effects - Ease of vanishing	- Price pressure - Customers have to be acquired - First target of enforcement - Dependence of production - Negative public relations
Counterfeiting Network Coordination	- Level organizational, production and market related knowledge - Network capability - Integration capability - Service provision for other orientations	- Strong background in organized crime - High profit margins - Low level of fixed costs - High flexibility - Ease of vanishing	- Dependence of other functions - Strong network dependence
Counterfeiting Financing	- Level of monetary support	- High profit margins - Very unlikely to detect	- Investment risks

(2) Counterfeit distribution specifies the engagement of a counterfeiter in offering distribution and logistics services. Providing logistic services in the counterfeiting business requires knowledge on accessible markets and distribution capabilities. Market knowledge includes information about well-known original products, target markets of rights holders, important distribution channels, and consumer behavior. The distribution capabilities refer to the possible direct and indirect channel options for creating, using, or managing a channel system among the counterfeiters, between counterfeiters and consumers, and the infiltration of legal distribution channels on all stages of the supply chain. We found national, regional, and global distribution strategies modes to avoid legal prosecution. For instance, a counterfeit distributor prefers a national or regional distribution strategy if rights owners are not present in the relevant countries or regions. Based on our insights, counterfeit distributors analyze a customer's level of counterfeiting acceptance to determine the type, number and frequency of customer communication. Counterfeiters that focus on the distribution function conduct consumer analysis to understand deceptive and non-deceptive consumer behavior for individuals as well as private companies. Advantages of a high degree of counterfeiting distribution are market power in the illegitimate value chain, a relative low level of fixed costs, flexibility in choosing collaboration partners, learning on legal and illegal markets, and a good chance to avoid detection on national and regional level as long as markets of rights holders are avoided. We also found specific disadvantages. If importers act in strong enforcement systems, they are the easiest target for legal protection activities and the majority of anti-counterfeiting activities are directed at counterfeit distributors. They have to implement and direct the distribution channel system and are responsible for customer contact. Thus, they have to invest into various channel instruments or, especially in the capital goods industry, have to establish face-to-face communication to acquire companies or react to their offers. Without own production facilities, supply with counterfeits depends on the relationship to producers. Without a broad net-

work of possible producers, a distributor is very likely to be unable to satisfy demand. Price pressure can be a problem if distributors are collaborating with procurement agents of companies with high market power (e.g. retailers in the consumer goods industry or parts procurement in the capital goods sector) in industrialized countries. Depending on the level of (il-) legal distribution activities, retailers or importers with a dominating focus on legal activities can be affected by the negative image of counterfeit distribution or illegal distributors are not able to supply licit companies.

The positioning elements organizing and financing are discussed with much controversy among the experts. (3) Counterfeiting network coordination refers to background elements that are superior to production and distribution. The experts describe these counterfeiters in three different ways: (a) As the true managers of counterfeiting who are often closely linked to organized crime as they manage and direct the whole value creation process and integrate the relevant actors or as (b) illegal private service providers that offer connecting services between counterfeiters in the value chain. A few experts added (c) legal private or governmental agencies which (un-) intentionally enable the counterfeiting network formation, e.g. business development agencies. Especially for (a) and (b), networking and masking capabilities as well as organizational, product related, and market oriented know-how are the core elements that describe the network coordination. Depending on the internal structure, this orientation leads to a high level of masking capability, flexibility in bringing together or directing counterfeiters, and mainly low fixed-costs for maintaining the network. Some experts also mentioned a high level of fixed-costs because of the ownership of production equipment, e.g. moulds or special tools which are only provided on demand for a limited time to counterfeit producers. Disadvantages arise from depending on the availability of production and distribution counterfeiters. Organizers in terms of counterfeiting managers need to take care that they have a critical mass of counterfeiters available in order to avoid supply shortages. Serving parties

need contact to a great variety of counterfeiters to fulfill their role of connecting party. That is why counterfeiting managers or services providers establish a multi-actor production and distribution system. Network coordinators also have to take care of quite a lot of knowledge creation regarding production, distribution, and the market. In addition, interaction with enforcement or governmental agents is crucial to their business success. (4) Counterfeit financing refers to monetary flows which enable counterfeiting. This element could not be described in more detail by the experts due to missing insights into the illegal finance sector. The experts only mentioned high profits in combination with a low level of prosecution and a strong relation to organized crime, governmental authorities, or large companies with high market power on legal markets.

4.3 Primary activities of counterfeiting

4.3.1 Business intelligence

Any counterfeiting activity is based on the detection of signals of emerging trends. This environmental scanning is captured by four elements in table 5 in the category business intelligence.

Table 5: Sources for Business Intelligence

Level	Element	Object	Relevant Information
1	Market	Public information portals, trading, portals, trade fairs, industry reports, other counterfeiters	Market structure, price, volume; market development
	Customer	Public chatting sites, industry reports, other counterfeiters	Consumer behavior; willingness to pay; key buying factors, attitudes, acceptance of counterfeiting
	Product, process, packaging	Product and process documentations, photos, patent documents, operating manuals, buying or stealing products and packaging material, service level agreements, customer visits, public product presentations, product tests, scrap, other counterfeiters	Product features and shape, ingredients, complexity, handling, production processes;
2	Environment	Patent documents, newspapers, governmental contacts, research reports, other counterfeiters,	Danger of IP infringements, available distribution channels, behavior of governmental authorities, counterfeiting clusters,
3	Collaborators	Consultants, customers, suppliers, distributors or competitors of the rights holders, wholesalers and retailers, governmental authorities (enforcement agents, audit or certification agencies), other counterfeiters, former employees of the rights holders	Production, distribution, organization, masking, knowledge and product acquisition, components, raw materials, blue-prints, scrap
4	Rights holders	Joint-Ventures, contract based and outsourcing activities (R&D, supply, production, distribution), present or future permanent or temporary employees of the rights holders	Present and future products, variants, and parts offered, distribution system, target markets, supply chain structure, training material, level of anti-counterfeiting and factory surveillance, pricing,

First, counterfeiters gather information about markets, products, and customers. Second, a thorough evaluation of the counterfeiting environment is conducted. Third, counterfeiters try to identify, evaluate, and approach possible collaborators like employees, customers, and suppliers who support the illegal activities. Forth, counterfeiters directly acquire information from rights holders, both on a legal (e.g. fake offerings or requests) and illegal (e.g. bribing an employee) basis.

4.3.2 Counterfeiting strategy formulation

Our study has revealed up to seven elements of counterfeiting strategy formulation (table 6). At the outset of strategy formulation stands the decision about the (1) business model that the counterfeiter adopts, which has already been discussed in section 4.2.2. (2) The level of (non-) deceptive behavior or fraud intention includes the basic decision for open or masked operations and transactions with business partners and customers. Counterfeiters that follow on an open operations strategy approach try to use their competitive advantages to interact with competitors of rights holders and counterfeiting friendly retailers or other counterfeit producers. They sell their products to customers that accept counterfeits due to lower prices or contact customers that are willing to share information about original product features. Masked operations are used to act as pretended rights holders, supplier, or industrial customer in order to facilitate counterfeiting.

Table 6: Parameters for counterfeiting strategy formulation

Element	Strategic element	Dimension	Elements
1	Business model	Coordination, Distribution, Financing, Production,	The mixture describes a counterfeiter in general
2	(Non-)Deceptiveness	Open/masked operations	Business partners; Customers
3	Counterfeit characteristics	Product Differentiation	Shape, quality, functionality
4	Pricing differentiation	Pricing differentiation	High, low, dynamic pricing
5	Specialization	Product range	One, a few, multiple products/rights holders /industry sectors
		IP-Infringement	Product vs. trademark counterfeiting, both
6	Geographical Range of operations	Internationality	National/regional/global
		Conflict potential	Home/Host/Third party country
7	Counterfeiter behavior	Activity level	Active vs. reactive
		Relevance	Dominating/complementing

(3) Counterfeit characteristics refer to a counterfeit's shape, quality, and functionality. (4) Pricing strategies include low- and high price strategies as well as dynamic pricing according to customer demand and the pricing of the original product. Both factors determine the possible addressable costumer segments. (5) The specialization is determined by product range and the use of non proprietary intellectual property rights (IP-infringement). The experts reported that counterfeiters, like legal companies, concentrate on one, a few, or multiple products of one or more rights holders from one or more industry sectors. In addition, the accepted IP-infringement can be divided into either product or trademark related counterfeiting, and a mixture of both. For instance, the counterfeit producer is specialized on one product without trademark infringement. Specialized packaging counterfeiters add trademarks and distributors offer blank and trademark products in third country markets which the rights holder does not serve. (6) The geographical range of operations refers to the counterfeiter's internationality and the inherent conflict potential. The geographical range may include purely domestic, focused international, regional, or global activities. Domestic and focused international activities concentrate on single countries, whereas regional or global activities enlarge the range of operations to two or more countries. In contrast to domestic operations, that focus on the counterfeiter's home country, international strategies often avoid markets of rights owners. Inherent to the geographical range is the conflict potential of these operations. For instance, purely domestic counterfeiters produce and serve one single market to avoid anti-counterfeiting and achieve learning effects whilst minimizing conflict potentials. In a similar vein, counterfeit distributors in the industrial goods sector often focus on selected single foreign markets. Counterfeiters in organized crime establish networks for global counterfeit supply. (7) Counterfeiting can be either the dominating or the complementing part of a company's business model. Fulltime counterfeiters rely more or less completely on the illicit business. In cases where counterfeiting is the dominating part of the business model counterfeiting

is conducted actively. Fulltime counterfeiters search for opportunities, collaborators, or new business models to sell, distribute, finance, or organize counterfeiting. In contrast, firms that use counterfeiting only to complement their legitimate product portfolio, e.g. to make full use of their capacities, usually adopt reactive patterns of behavior – they react to take opportunities. In our study, part-time counterfeiting can be observed from well-established manufacturers, suppliers, or distributors. They often are able to use original material for third shift production or to complement their own product offerings. Reactive, part-time counterfeiters are engaged in counterfeiting only on demand. Initiators are counterfeiters (e.g. producers, distributors, or organizers), retailers or wholesalers from other countries, and competitors or customers of rights holders.

4.3.3 Counterfeiting instrument selection

The experts reported that counterfeiters use multiple instruments to conduct their business. In table 7, the relevant instruments arranged according to the source or function. Legal Instruments focus on possible IP-related actions of counterfeiters to combat rights holders. They aim at securing or prolonging counterfeiting activities. Management-oriented measures refer to the handling of the counterfeiting process and can be found at all stages. Political instruments support counterfeiting activities and are directed at governmental authorities or other counterfeiters. Technical solutions are directly linked to the counterfeit.

Table 7: Counterfeiting instruments

Type	Instruments
Legal	*Underlying IPRs:* Patent, trademark, utility patent, design patent, law against unfair competition *Legal instruments:* Pre- or counterfiling of existing IPRs of rights holders in "IPR-free", home, or host countries; illegal use of existing IPRs; pre- or additional filing of "free" IPRs around the IPRs of the rights holder, alteration of existing trademark or patent application elements

Management oriented	*Business Intelligence:* Document analysis (IPRs, standards, on- and offline manuals, catalogues etc.), trade fairs, suppliers, vendors fair investigation, pretended meetings and offerings, human intelligence (competitors, suppliers, distributors, customers, employees of the rights holder); espionage, enforcement evaluation; online and offline technical espionage *Human Resources*: Bribery, headhunting, pressure on employees, decrease labor costs, individual relationship management, incriminating evidence, loyalty assessment, expatriate program, infiltrate rights holder's workforce *General management:* Network management, collaboration (Joint-Ventures, fake contracts, production co-operations, knowledge and machinery exchange) betray other counterfeiters; permanent relocation, clustering vs. small scale sites; preference for regions with a low level of governmental surveillance, lobbying, relationship management, management of the illegal supply chain, little separated freight quantities *Logistics:* Penetration of or intrusion into legitimate supply chain, low level of storage, changing of distribution routes, use of a hub-system, transportation (from cars to airplanes) *Marketing:* Market analysis, image creation, pricing, online marketing on private auction homepages, alteration of product names, provision of promotional material, manuals and product catalogues *Technology and Intellectual Property Management*: IP-Infringement analysis, combination of legal instruments, recommended alterations for counterfeits during court hearings, life cycle analysis, "brand management" *Procurement:* Acquisition of parts, test samples, product properties, packaging, pre-products, complete counterfeits; pretended procurement talks, *Production:* machinery, manual labor, refilling of original packaging, quality and functionality management, level, on demand production, low or no storage, no-name products, repacking; sharing of production elements and machinery *Sales/Distribution:* - Legal system: Intrusion into the legal system; bribing of drivers, blue-collar workers, storekeepers, retailers, or free trader; attendance of fairs; legal internet platforms - Illegal direct system: counterfeit internet platforms, addressing competitors, suppliers, or customers of the rights holder, fake labeling - Illegal indirect system: Street vendors, contact to counterfeit wholesalers and retailers, fake labeling, street markets *R&D:* reverse engineering (based on products, pictures, IP filings); product modification to reduce legal anti-counterfeiting
Political	*Governmental authorities:* Bribery, illegal cooperation, success sharing during raids; anti-counterfeiting information sharing; fake certifications, shipping documents, and toll registration numbers; illegal technology transfer *Private sector:* networking; joint lobbying, anti-counterfeiting information sharing
Technical	*Single use:* Use of fake trademarks, certificates, registration numbers *Combinations*: fake trademarks and packaging, fake manuals, color variation, use of identical or even more overt technological/technical anti-counterfeiting solutions as fakes, combination of legal and illegal components

4.4 Support tasks

4.4.1 Masking of counterfeiting activities

Masking is at the core of business objectives as counterfeiting seems not to be possible until a company is able to select, use, and combine the counterfeiting instruments in table 7 properly. Relevant instruments can be found in all classes but the main areas for the application of masking instruments are production, sales/distribution, and logistics from the management section. Counterfeiters combine these instruments and direct them at all possible stakeholders to ensure the secrecy of their illegitimate operations. Without masking, legal prosecution measures of anti-counterfeiting are easily applicable. That is the reason why, companies with

a high degree of organizing and financing functions are not engaged in direct physical production. They act behind the scenes to strengthen and concentrate their efforts on masking their activities. Counterfeiters only abandon their secrecy to some extent if a non deceptive behavior leads to more profit. Anyhow, they just disclose less important parts of the front end of their activities that are close to customers. The relevance of masking in our study ends as soon as counterfeiters are established competitors with own intellectual property rights.

4.4.2 Network management of the supply chain: Structure and actors

Counterfeiting is organized by a high division of labor. The illicit value chain encompasses several stages with specialized actors. The basic actors and the structure are similar to the legal supply chain. On the first level, counterfeiters act as producers and suppliers for low to medium quality materials. To reduce costs, they infringe process patents, use low-quality ingredients, and do not take care of environmental or health issues. On the second stage, counterfeiters take over responsibility for modules and components. These semi-finished goods range from technological components (e.g. casting molds) to the provision of ready-to-use counterfeited trademarks for the next stage. They violate all sorts of intellectual property rights, for instance copyrights for software or packaging material. Component suppliers also infiltrate legal supply chains to either access original supplies (like packaging blueprints) or to distribute their counterfeit components. The third stage refers to the system integrators. On this stage, a counterfeiter can occupy this “classic” position in the illicit value chain. Counterfeiters as system integrators take over the responsibility for integrating components and parts from previous value chain stages and may account for the production of selected parts and components themselves. They also coordinate the interaction with the subsequent stages. Besides this role, experts report on another type of actor on this value chain stage: Pure assembling points act as integration hubs for the previous stages without management duties. On the market oriented stages of the supply chain, counterfeiters serve as logistics providers and care

for delivery of the products to target markets. They are of critical importance, if the location of production and the target market differ geographically. On this level, also counterfeit smugglers can be found. Marketing and distribution is taken over by illegal wholesalers, retailers or street vendors on the final stage of the value chain. Altogether, we found a high degree of parallelization within the illicit supply chain in terms of processes and customers if the division of labor is high. For instance, specialized packaging counterfeiters, component suppliers and counterfeit producers have parallel processes to cooperate within a counterfeiting network, with partners in the illicit supply chain or with legal partners.

5. Discussion and conclusions

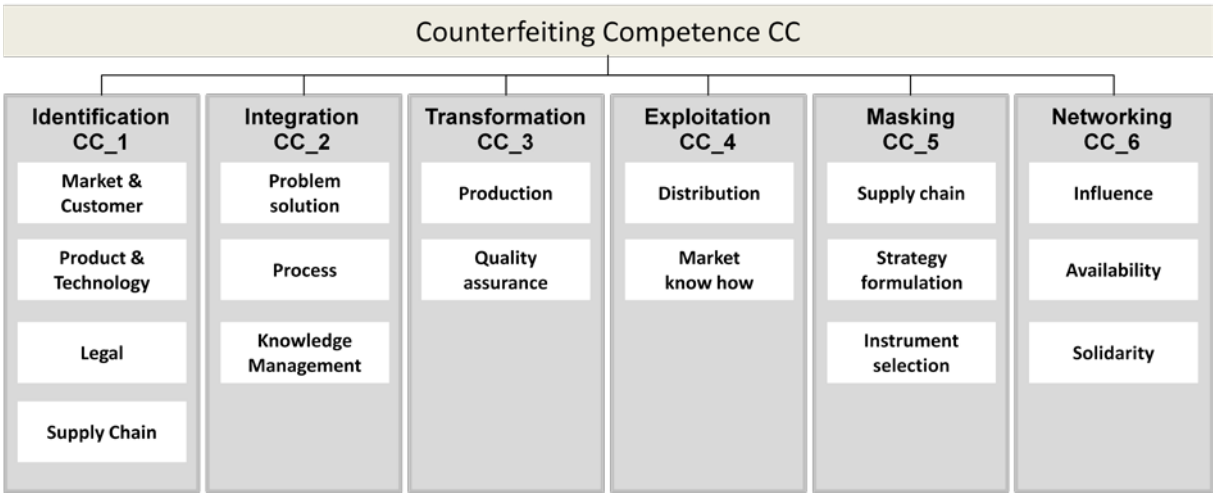
5.1 Towards a basic framework for exploring counterfeiting management

What determines the success of counterfeiters in competition with rights holders? In the RBV perspective, alike to legal firms, the basis for "competitive advantage" of counterfeiters is attributable to the bundle of valuable resources and competencies at the firm's disposal. Which dynamic capabilities and what kind of idiosyncratic competencies distinguish counterfeiters from legal competitors?

We identified three dynamic capabilities of counterfeiters that are similar to the existing RBV literature for legal competition. (1) Adaptability refers to the reconfiguration, renewal, or removal of primary and supporting activities. The illegitimate companies have to adapt these activities in order to react to or influence a country's or region's appropriability regime and anti-counterfeiting efforts of rights holders. As counterfeiters are confronted with increasing costs, the loss of collaborators, and a limited life span of the business model, the ability to adapt to changes in the system allows the protection or extension of the counterfeiting business model and the prevention of anti-counterfeiting. (2) Due to the dynamic character of (anti-) counterfeiting, the learning capability is responsible for the business success of counterfeiters. They can improve their ongoing primary and secondary activities, acquire new

knowledge, reduce technological disadvantages, shape or redirect their business model (e.g. from counterfeit manufacturers to a stronger focus on coordination and organization), and can emerge as legal competitors in the long run. (3) Reorganization refers to the integration, change, or deletion of organizational structures. Counterfeiters have to reorganize their illegal supply chains, external networks, and internal organizational structures. From a process oriented view, counterfeiters develop their own type of absorptive capacity which is illustrated by the arrows in figure 1. First, they have to create the potential for counterfeiting – the capability to precisely identify and integrate respectively assimilate external know how. Second, the potential is realized by transforming and exploiting it. Third, masking protects a counterfeiter. Forth, networking refers to the interaction with all possible partners. Figure 2 shows the competence based framework to evaluate counterfeiters. Each capability consists of two to four elements according to which the maturity of counterfeiting competence can be explored. For each element five maturity levels have been identified in which higher levels represent a higher capability to to estimate or assess the proficiency of a counterfeiter (or a counterfeiting network) from the view of rights holders. The framework addresses both, fulltime backyard counterfeiters who simply concentrate on one stage of the illegal supply chain as well as internationally acting legal companies that are engaged in part-time counterfeiting.

Figure 2: A framework for counterfeiting competence assessment



5.1.1 Identification

As counterfeiters aim at profiting from the efforts of rights holders, they have to identify existing business opportunities to determine the risks and chances of counterfeiting. We recommend to analyze four elements. “Market and consumers” represent the demand side of the business opportunity and ranges from merely looking for sales figures up to the evaluation of future market developments. “Product and technology” refers to the ability to understand the original product in question. We found a wide variety of counterfeiters’ activities from simply relying on public information up to evaluating future product features. “Legal aspects” determine the counterfeiters’ assessment of the IPR situation. In this dimension, counterfeiters do not care of legal prosecution risks or, on higher levels, understand the risks and try to identify present and future chances. “Supply chain” shows the understanding of the legal production and distribution system. We found different levels of maturity from no or less understanding of the supply chain over a good idea of the core elements or even the analysis of future changes. The different levels of identification are shown in table 8.

Table 8: Levels of identification

Element	Level 1	Level 2	Level 3	Level 4	Level 5
Market & Customer	Market scanning for sales figures	Market and customer scanning	Segmenting markets and customers	Identify the most important market and customer segments	Evaluate the growth potential of market and customer segments
Product / Technology	Using public available information about the product features	Acquire product information from reverse engineering	Collaborate with stakeholders to enlarge product and technological know how	Active information acquisition from rights holders	Evaluate relevant future product features
Legal aspects	No legal analysis	Identify important IP elements	Analyze legal consequences	Analyzing mistakes, gaps, and weak points	Evaluate future developments and changes in IPR
Supply chain	No supply chain analysis	Understand the general procurement and distribution structure	Understand the core elements of the distribution channel system	Analyzing weak points and intrusion opportunities	Evaluate future supply chain developments and changes

5.1.2 Integration and assimilation

This competence in table 9 refers to the ability of counterfeiters to integrate and assimilate the knowledge into their organizational structures. According to the experts, the degree of “prob-

lem solution" and the available" processes" should be used to estimate the integration capacity of a counterfeiter. "Problem solution" is associated with the development of possible solutions for all important issues that emerged during the identification and ranges from simple product related solutions up to improvements or special protection efforts for the counterfeits and to avoid legal prosecution. "Process" refers to the level of professionalism in terms of integration efforts. We found that counterfeiters vary from no processes to a strong focus on process management. "Knowledge management" indicates the level of information exchange to support the integration. The experts indicated that the maturity of knowledge management can be displayed from not existent at all to the existence of sophisticated IT-based systems.

Table 9: Levels of integration and assimilation

Element	Level 1	Level 2	Level 3	Level 4	Level 5
Problem solution	Providing solutions for product oriented problems	Providing solutions for distribution oriented problems	Providing solutions for legal disputes	Providing solutions for network related problems	Providing solutions for re-innovation and protection
Process	No recognizable process at all	Process are limited to the counterfeiter	Standard operating procedures based	Best practices for the network	Redefining and adopting internal and external standard operating procedures
Knowledge Management	No knowledge management	Information exchange with a few core collaborators	Information exchange within the counterfeiting network	Information exchange with all relevant stakeholders	Establish knowledge databases for future projects

5.1.3 Transformation

The transformation capability in table 10 refers to the creation of counterfeits. "Production" reflects the similarity between the original product and the counterfeit. As in the literature, the proficiency ranges from non deceptive counterfeits up to slavish imitations and re-innovation. "Production" is based on the assumption that counterfeiters have access to high quality production sites if they aim at high level counterfeits. "Quality assurance" indicates if the counterfeiter or the counterfeiting network is able to produce counterfeits on a constant level as quality differences can be found on counterfeit markets.

Table 10: Levels of transformation

Element	Level 1	Level 2	Level 3	Level 4	Level 5
Pro-duction	Only non deceptive counterfeits	Product shape	Product shape and basic functionality	Slavish imitations	Re-innovation
Quality assurance	Permanent differ-ences	Differences in the majority	Differences are ob-served seldom	Very little to no differences	Superior quality

5.1.4 Exploitation

Exploitation refers to the commercialization of counterfeits. "Distribution" describes the channel system. It ranges from national and single channel systems up to global multi channel systems. "Market know how" indicates the segmentation efforts to address specific customers. Counterfeiters are very different in this dimension as they sometimes do not concentrate on a segment and therefore rely on one counterfeit or offer segment specific counterfeits with different features for each subgroup. An overview can be found in table 11.

Table 11: Levels of exploitation

Element	Level 1	Level 2	Level 3	Level 4	Level 5
Distri-bution	National sin-gle/multi channel system	Regional single channel system	Regional multi channel system	Global single channel system	Global multi chan-nel system
Market know how	No specific seg-mentation	Counterfeits for the largest segment	Specialized coun-terfeits for several segments	Specialized coun-terfeits for each segment	Specialized coun-terfeits with differ-ent features for each subgroup

5.1.5 Masking

Masking refers to the capability of keeping counterfeiting elements secret. "Supply chain" reflects the available information about the structure and the actors of the counterfeiting supply chain to the rights holder. Assumed that there are efforts to identify the illegitimate supply chain, we found that in some cases a lot of information is available whereas in other cases the supply chain was completely secret. "Strategy formulation" describes the capability of formulating adequate counterfeiting strategies. "Instrument selection" indicates the instrument application of a counterfeiter. The experts recommend to distinguish between the number of in-

struments and if they are solely used from one company or if they are combined and balanced within the network. Table 12 provides an overview.

Table 12: Levels of masking

Element	Level 1	Level 2	Level 3	Level 4	Level 5
Supply chain	Structure, actors and locations are well known	Organizers and financers are known	A few stages and actors are known	The retailers are known	Supply chain is unknown
Strategy formulation	No strategy formulation	A strategy can be observed	Strategy formulation based on several dimensions	Multidimensional strategy formulation	Taking all dimensions into consideration
Instrument selection	Only the most necessary instruments are used	A few instruments from different sources are used	Instruments from different sources are used without coordination	Instruments from different sources complement each other	Instruments from different sources complement each other and are balanced within the network

5.1.6 Networking

Networking in table 13 refers to the complexity and the connections of a counterfeiter. “Influence“ indicates if a counterfeiter is able to set an agenda for a network. Counterfeiters can have no influence at all, can set an agenda with some support or can be the strong leaders of the network.

Table 13: Levels of networking

Element	Level 1	Level 2	Level 3	Level 4	Level 5
Influence	The counterfeiter has no influence	The counterfeiter can participate in the agenda setting process in a minor way	The counterfeiter can set an agenda together with other strong members	The counterfeiter can set an agenda together with a few weak members	The counterfeiter is the strong leader of the network
Availability	Only a few elements are available, other networks are important	The major relevant elements are available	All relevant elements are available	All relevant elements are available several times, losses matter	All relevant elements are available several times, losses are compensated easily
Solidarity	Network members cooperate loosely	Network members depend on each other in some areas	The network follows a strict agenda	The network is based on mutual business and private linkages.	The network belongs to organized crime

“Availability” indicates if a counterfeiting network can provide all relevant elements for counterfeiting. It is important to assess if the network only includes the most necessary functions or if all functions are available and are not vulnerable to losses of actors. “Solidarity“

describes the level of mutual trust and understanding from loose collaboration over family linkages up to organized crime.

5.2 Conclusion

Based on our study, we argue that counterfeiters have developed from small scale backyard production to a professional industry with a high degree of labor division and specialized actors. Counterfeiters are able to achieve competitive advantages compared to legal competitors but they also have to face disadvantages. Therefore, counterfeiting management has to follow this development to secure the competitive position. Dierickx and Cool 1989 identified several barriers to asset stock accumulation which make corporate learning more difficult (Dierickx/Cool 1989). Counterfeiters seem to be able to overcome these barriers to some extent. They can position themselves as followers to reduce uncertainty and ambiguity. As they accept IP infringements, they can acquire product and process knowledge very fast. Additional costs for testing new concepts do not exist as long as they concentrate on simple counterfeits. Due to their networking capability they do not face critical resources. Thus, counterfeiting can be seen as a foundation for the realization of learning effects for the development of companies in addition to innovation and imitation. For successful counterfeiting management, counterfeiters have to develop specific competencies. Drawing on the resource/competence based view of the firm, we were able to identify different capabilities which represent counterfeiting competence. To explore them in more detail, we used the concept of absorptive capacity as starting point and adopted it to our research object to create a framework for analyzing counterfeiters in more detail. Due to the explorative design of this study the elements and levels should not be regarded as a closed tool but as an open instrument that could be rearranged or supplemented with additional elements for analyzing a counterfeiter's management competence. The basic framework in section 5.1 and its subsequent sections reflect many primary and supporting activities. This process oriented perspective allows a comprehensive

view on counterfeiting management. The general (dis-) advantages, targets and business models presented in section 4.2 highlight a differentiated picture for the engagement in counterfeiting. Contrary to the existing literature, we identified multiple targets of counterfeiters. Although the intention to realize profits is a dominant target, we found other motives like the reduction of technological disadvantages or the well-directed attack on rights holders. Depending on the counterfeiting orientations, counterfeiters appear to prioritize the relevant activities and highlight counterfeiting as a multi-actor phenomenon. Most of the experts in this study described the basic orientations as the major source to create profits. Especially counterfeiters as organizers strongly belong to networks of organized crime syndicates, mainly Mafia and Triads, or, in fewer cases, to radical political parties (e.g. Hezbollah) respectively terrorist organizations like Al-Qaeda. A few experts do not mention these two orientations or, if asked for, consider them as less important or as a part of production and distribution. As shown in section 4.3 counterfeiting strategies are related to a variety of elements and can be based on several sources of information. For the implementation of these strategies, counterfeiters can use a complex system of legal, political, technological, and management oriented instruments. From the supporting activities, the experts stressed the importance of masking and networking as most important supporting activities to organize counterfeiting in section 4.4. We could not provide insights into internal organization structures, evaluation, or resource allocation due to the limited access to counterfeiters as participating experts.

6 Implications

6.1 Implications for anti-counterfeiting in practice

The experts in our study are all engaged in the field of (anti-)counterfeiting practice or research. Anti-counterfeiting depends on the knowledge about the counterfeiters to successfully develop a protection system. Up to now, counterfeiters are treated as a black-box. This study adds an explorative collection of possible starting points for the analysis of counterfeiting

management. The insights can be used to benchmark different counterfeiters and can help for situation analysis in anti-counterfeiting. We have shown that a counterfeiting strategy consists of several elements which reveal a counterfeiter's focus. Counterfeiters act in complex international networks which consist of various specialized actors. Counterfeiting instruments can be found in various functions, among them production, sales/distribution, and logistics seem to be most important to mask activities. Counterfeiters are not all alike, they can be evaluated by analyzing their capabilities. Future anti-counterfeiting efforts should take these findings into consideration as emerging counterfeiting management demands professional anti-counterfeiting solutions.

6.2 Implications for (anti-)counterfeiting research

From a conceptual point of view, we found several elements in an explorative study, which describe counterfeiting management in more detail. The investigation of the supply side of counterfeiting management can provide valuable insights into counterfeiters as competitors of legitimate innovating and imitating companies. With this study we sum up the existing literature to present relevant research contributions. We present a process and competence oriented framework of counterfeiting management. Our approach demonstrates the potential of a qualitative research design with multiple methods for exploring less investigated field. This study identifies the elements of counterfeiting management as promising research gap in innovation and intellectual property management literature.

6.3 Limitations and future research

Given the very limited literature about counterfeiting management and the difficulties in addressing counterfeiters, we have used an indirect and explorative qualitative design that combines a multi-industry and a multi-actor perspective to investigate the supply side of counterfeiting. The expert interviews and case studies provided insightful information about the different topics. Although we put emphasis on the quality assurance in section 3.5, this research

design is limited to some extent. (1) An explorative design aims at creating and not reducing information. (2) A qualitative approach reflects subjective information and cannot provide objective insights into counterfeiting management. For these two reasons, quantitative instruments have to be added to improve the knowledge about the elements of counterfeiting management. (3) This study was designed to explore the topic from a general perspective. To identify country or industry sector specific elements, the sample should be adjusted accordingly. In addition, future research should try to (4) create a more direct approach or using mixed-methods to analyze counterfeiting management, (5) link strategies and instruments to different competencies and types of counterfeiters, and (6) analyze the relationship between anti-counterfeiting and counterfeiting in more detail.

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Appendix

Table 14: Quality assurance of the study

Criteria		Research Design	Instrument Selection	Data Collection	Data Analysis	Results
Reliability	Transcripts	Transcription rules	Summary transcripts	Informant check; 2 interviewers; interviewer training	Researcher; peer discussion;	
	Codes			Memos	Coding rules; memos	
	Communication	No team coding; research meetings for preliminary discussion				
	Cross-Checking	Process documentation		Case study		
Validity	Triangulation	Multiple topics	Expert Interview, case study	Multiple actors, industry sectors and functions	Category system	
	Member Checking			Interviewee approval; follow up calls		
	Description	Literature review	Instrument description	Sample description	Instrument description	Result description
	Researcher Bias		Interviewer ≠ researcher	Interviewer ≠ researcher	codified research instrument	
	Discrepant Information			Two interview guides; follow-up calls; Case	Discussion	Discussion
	Time	business projects; long project duration				
	Debriefing	Experts for qualitative methods; colleagues; presentations; expert talks				
	External auditor	Research meetings	Research meetings	Research meetings	Research Meetings	Conferences

Configurations of counterfeiting management and their performance implications: Exploring strategies, instruments, and competencies

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Keywords:

Intellectual Property Infringement, Counterfeiting Management, Resource/Competence-Based View of the Firm, Strategic groups, Configurations, Mixed Methods.

JEL classification: M1, M16, O34

Highlights

- Counterfeiting management is investigated
- Strategies, instruments, and competencies of counterfeiters are explored
- Counterfeiting management configurations are identified and linked to performance measures

Abstract

Counterfeiting has become a multi-billion dollar industry; however, insights into counterfeiters are scarce. By combining the resource-based view of the firm and the concept of strategic groups, this study explores counterfeiting management (CM) configurations. Specifically, three research questions are addressed: (1) How can constructs that constitute CM be identified at a corporate level? (2) Which CM configurations can be distinguished empirically? (3) How do different CM configurations perform and how are they linked to environmental variables? To answer these questions, an explorative two-stage mixed-methods research design has been employed. Phase 1 deduces a framework for CM using qualitative content analysis of 230 expert interviews, 70 case studies, and the internal information of intellectual property owners, service providers, governmental authorities, and research institutions. In phase 2, clustering procedures are used to analyze survey data from 156 anti-counterfeiting experts. As a result, five configurations are identified, described, and assessed. The results indicate significant differences between counterfeiting capabilities, strategies, and instruments.

1. Introduction

The amount of seller- and buyer-driven counterfeiting in industries or countries with weak appropriability regimes, especially in developing and transition countries, has increased considerably over the past decade and is estimated to account for one to seven percent of the world trade volume. Since intellectual property rights do not hinder counterfeiters, counterfeiting has evolved from a simplistic, opportunistic activity to a professional multi-billion-dollar business (Chaudhry, 2006; Frontier, 2011; ICC, 2007; OECD, 2008, 2009; Paradise, 1999;

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Staake & Fleisch, 2008; Stumpf & Chaudhry, 2010). Defined as "[a]ny unauthorized manufacturing of goods whose special characteristics are protected as intellectual property (trademarks, patents and copyrights) […]" (Cordell, Wongtada, & Kieschnick, 1996, p. 41), counterfeiting can be seen as a third possible strategic option in addition to innovation and legal imitation (Chaudhry & Zimmerman, 2009; Johns, 2009; Phillips, 2007; Schnaars, 1994). All of these strategies may lead to a competitive advantage, and a company's ultimate success depends on its strategic behavior vis-à-vis its competition (Lee, Smith, Grimm, & Schomburg, 2000). The traditional view argues that the profit potential without the constraints of R&D efforts is the main driver for illegally counterfeited products (Trott & Hoecht, 2007). As a consequence, R&D-intensive firms and brand owners are under pressure because counterfeiters illegally benefit from their efforts and knowledge, while R&D and intellectual property investments become less profitable or unprofitable (Chaudhry & Zimmerman, 2009; OECD, 2008; Yang & Kuo, 2008). Contrary to this line of argumentation, there exist benefits of counterfeiting beyond the advantages of an early- or late-follower strategy, like reduced market risks (Trott & Hoecht, 2007). At the firm level, counterfeiters might support rights holders by collaborating to further develop technologies, by promoting the value of original products (e.g., through network effects or in comparison to the low quality of counterfeited products), and by supplying products to consumers who would be unwilling to purchase the original one. Thereby, counterfeits do not reduce profits of rights holders, but lead to potential new customers if counterfeit buyers eventually become buyers of original products (Berg, 2002; Givon, Mahajan, & Muller, 1995; Maltz & Chiappetta, 2002). For consumers, counterfeiters provide a wider range of available products or satisfy an existing demand (Albers-Miller, 1999; Ang, Cheng, Lim, & Tambyah, 2001; Harvey & Walls, 2003; Nia & Zaichkowsky, 2000). Society may profit from counterfeiting through a decrease in unemployment and the supporting effects for legal businesses. Counterfeiters may even evolve from being engaged in illegal activities to becoming legitimate companies in the long run (Givon et al., 1995). Given this development, counterfeiting strategies and instruments represent new challenges or options for strategic management; however, only a limited amount of research on this issue is currently available in academic journals (Staake, Thiesse, & Fleisch, 2009). This study aims to close this gap by focusing on the intentional and illegal violation of intellectual property rights by counterfeiters. Therefore, the relevant underlying capabilities and competencies for the development of a counterfeiting management (CM) taxonomy at a corporate level are explored. The taxonomical approach combines a resource-based view of the firm (Barney & Arikan, 2001; Crook, Ketchen, Combs, & Todd, 2008; Newbert, 2007) and the strategic group concept (Hunt, 1972) into a configurative design. Multiple company-specific internal variables are linked to outcome measures to analyze counterfeiters as organizational entities

(Ketchen et al. 1997; Ketchen & Shook, 1996; Ketchen, Thomas, & Snow, 1993; Meyer, Tsui, & Hinings, 1993).

First, a review of CM-related literature provides a starting point for the development of a conceptual framework. Second, an explorative mixed-methods approach (Creswell & Plano Clark, 2011) based on qualitative content analysis of qualitative information derived from 230 expert interviews and quantitative findings from survey research with 156 anti-counterfeiting experts is applied. Third, information concerning the strategies and instruments of different types of counterfeiters is presented. To summarize, the research agenda for this explorative study consists of three specific research questions:

RQ 1 How can CM configuration constructs be identified at a corporate level?

RQ 2 Which CM configurations can be determined based on empirical findings?

RQ 3 How do different CM configurations perform and how are they linked to environmental variables?

The remainder of the article is structured as follows: A literature review of CM is presented in section 2. The theoretical background and the two-stage research design are provided in section 3. In section 4, the mixed-methods research methodology is described. The qualitative methods for selecting input variables and relevant dimensions, as well as the concept of the CM framework, are included in phase 1. In phase 2, the quantitative techniques to derive configurations for the measurement of counterfeiters are applied. The taxonomy, exploration of related variables, and discussion of the findings are presented in section 5. The article concludes with implications for academic research, managerial practice, and governmental policy in section 6.

2. Literature Review

This review includes selected empirical studies and conceptual articles concerning CM that focus on counterfeiters' characteristics, strategies, and operations. The selection of works for this review was driven by keywords including "counterfeiter," "counterfeiting," "trademark piracy," "product piracy," "illegal imitator," and "pirates" in combination with "strategy," "instrument," "process," "organization," "resource," "competence," "typology," "configuration," and "taxonomy." Findings from electronic journal databases (EBSCOhost Business Source Premier and ScienceDirect) of reviewed journals are complemented with textbook passages and selected practitioner publications in the English language. Research in CM addresses (1) counterfeiting strategies, (2) counterfeiting instruments, and (3) counterfeiter classifications. (1) Kaikati and LaGarce (1980) were among the first to describe four different counterfeiting strategies for trademark piracy. Based on the level of intellectual property infringement, strategic options for CM range from outright piracy (e.g., pretending to be an authorized dealer) to wholesale piracy (taking advantage of national filing systems for intellectual property

rights). Harvey and Ronkainen (1985) and Harvey (1987) make a distinction between direct and indirect counterfeiting as two basic types of information acquisition with four production- and distribution-oriented sub-strategies. These considerations demonstrate the different paths that a counterfeiter can take and provide insight into how home- and third-country production respectively distribution are used to mask illegal activities. In addition to the distinction between direct or indirect acquisition of knowledge, counterfeiters can be distinguished based on whether they produce and sell deceptive or non-deceptive counterfeits (Grossman & Shapiro, 1988; Hopkins, Kontnik, & Turnage, 2003).

(2) Although counterfeiting instruments overlap with strategies in many publications, they can be structured into masking operations, illicit lean production, and (il)legal learning tactics. Counterfeiters mask their operations by using “front” companies, “front” personnel for registration, subcontractors for logistics and payment, and political influence to protect illicit companies or “secret” subsidiaries for production. Specific distribution elements, such as smugglers or street vendors, are combined with online sales platforms so that it is very difficult for rights holders to tie counterfeiters to seized products. False product names or trademarks are used in production, sales, inventory records, and on websites to hinder investigating governmental authorities and rights holders, deceive customers by providing false origin information, or mask the country in which the goods are purchased. For the same reasons, counterfeiters operate on a make-to-order principle for illicit production. Low levels of inventory and separated facilities for manufacturing and storage along with secret second- or third-shift production enable counterfeiters to minimize losses and penalties. (Il)legal learning tactics consist of reverse engineering, contract manufacturing, positioning as an importer, and joint ventures to learn and understand the underlying technologies or production processes (Berman, 2008; Green & Smith, 2002; Hung, 2003; Minagawa, Trott, & Hoecht, 2007; Naim, 2005; Sonmez & Yang, 2005).

(3) Insights into the illegal business model, counterfeiter classifications, and corresponding production strategies can be partly derived from the existing literature (Berman, 2008; Chaudhry & Walsh, 1996; Harvey, 1987; Yang, Sonmez, & Bosworth, 2004). According to these publications, the business models and production strategies of counterfeiters vary in terms of quality, functionality, pricing, and the presentation or shape of the counterfeit. For instance, true counterfeit products resemble originals as much as possible and use the same brand name, or involve an existing brand being used on a product that is not offered by the brand owner. For distribution strategies, counterfeiters can often rely on the cooperation of wholesalers, retailers, or end users (Bush, Bloch, & Dawson, 1989). Green and Smith (2002) discuss this issue in a case study about alcoholic beverages in Thailand. In this example, legitimate channel members collaborate and actively purchase the counterfeits to improve profits. Counterfeiters also establish illegal production and distribution systems by cooperat-

ing with each other or by participating in organized crime syndicates. Thus, counterfeiters and their products coexist in final and intermediate markets by acting at single, several, or all stages of the supply chain (Hopkins et al., 2003).

So far, little research has been conducted to identify and describe different types of counterfeiters. Trott and Hoecht (2007) distinguish between two types of counterfeiters based on five elements: objective of counterfeiting, counterfeited product, strategy, effects on rights holders, and attractiveness for consumers. The first type consists of passive imitators and counterfeiters that strive for quick profits from low-quality imitated goods for short-term gains without repeated consumer interactions. The second type represents potential collaborators with "copy-and-develop" capabilities. They are interested in building their own new product-development capabilities to achieve qualities that are similar to that provided by the rights holder. Moreover, they build a brand identity and foster repeated customer transactions to emerge as a potential competitor in the long run. Staake, Thiesse, & Fleisch (2011) provide insights from expert interviews with nine managers to derive product-related (visual and functional quality, product complexity, potential loss or danger for the user, and degree of conflict with the law) and company-specific (estimated investment in production facilities and organization, estimated product and brand specialization, and estimated output with applied production technology) variables. They were used in a second step to conduct an analysis of 128 counterfeits with rights holders. Five different types of counterfeiters were identified as strategic groups: (1) Disaggregators are engaged in counterfeit production of average functionality and quality with low-to-average complexity. They seem to focus on earnings from brand-name-related counterfeits with minimal investments in production facilities. (2) Imitators focus on counterfeits with high visual and functional quality, though they still not match the quality of the original product. There are substantial investments and specialization required for achieving high production output for home market distribution. (3) Fraudsters sell deceptive counterfeits with high visual, but low functional quality to achieve sales prices close to those of the original products. Their investments in production facilities are low to avoid financial losses owing to seizures. (4) Desperados use small-scale production to mimic easy-to-imitate high-price products that are hard to evaluate in advance of a purchase decision and do not care about consumer health. For high profits, they are willing to risk severe punishment. (5) Counterfeit smugglers do not focus on brand-related earnings but realize profits from evading taxes. They face severe governmental prosecution and have strong connections to or are a part of organized crime.

Based on the literature review (table 1), it can be concluded that the conceptual and empirical literature basis is very limited. Nevertheless, the existing body of literature provides insights into important managerial issues of counterfeiting. There appear to be multiple types of counterfeiters acting along the entire supply chain and using strategies and instruments to

pursue their objectives in a professional manner. Strategy formulation includes all stages of the supply chain, knowledge acquisition, geography, production, distribution, customer base, and cooperation. Counterfeiters attempt to decrease prosecution and adopt multiple instruments as a part of their strategy. From a conceptual perspective, a majority of scholarly publications focus on specific elements of CM, such as strategies or instruments (e.g., Harvey, 1987; Harvey & Ronkainen, 1985; Hopkins et al., 2003; Minagawa et al., 2007).

Table 1: Elements of counterfeiting management

Dimensions	Foundation	Authors
	CM strategy	
- (In)direct knowledge acquisition - (Non-)deceptive consumer orientation - Counterfeit manufacturing - Counterfeit distribution	*Theoretical*: equilibrium model *Empirical*: company examples, case study, expert interview	Berman, 2008; Bush et al., 1989; Chaudhry & Walsh, 1996; Green & Smith, 2002; Grossman & Shapiro, 1988; Harvey, 1987; Harvey & Ronkainen, 1985; Hopkins et al., 2003; Kaikati & LaGarce, 1980; Yang et al., 2004
	CM instruments	
- Masking the illegal origin - Knowledge acquisition - Logistics - Distribution	*Theoretical*: n/a *Empirical*: case study, expert interview	Berman, 2008; Green & Smith, 2002; Hung, 2003; Minagawa et al., 2007; Naim, 2005; Sonmez & Yang, 2005; Yang et al., 2004
	CM typologies and organizational structures	
- Supply chain - Passive imitators - Collaborators - Disaggregators, imitators, fraudsters, desperados, smugglers	*Theoretical*: strategic groups *Empirical*: expert interviews, product comparison, cluster analysis	Hopkins et al., 2003; Staake & Fleisch, 2008; Staake et al., 2011; Trott & Hoecht, 2007

Given the early state of CM research, existing empirical studies mainly use multiple qualitative approaches like case studies and expert interviews. There is only one taxonomy for counterfeiters (Staake et al., 2011). This study provides pioneering insights for counterfeit-related production and engineering capabilities. In addition to the general problem of indirect questioning, a counterfeit-oriented approach faces the problem that the source may not be clearly identifiable, which can influence results. To further develop this study of CM, corresponding capabilities should be integrated into the clustering procedure and linked to quantitative data for strategies, instruments, and performance measures.

The existing literature summarizes possible methods of CM, but there is no link from companies to underlying capabilities, competencies, or performance measures. Counterfeiting capabilities are only loosely mentioned in terms of production, technology, or distribution. Thus, it is not clear whether a company is able to perform individual strategies or instruments at all. To explore counterfeiting firm performance further, an integrated multidimensional approach is needed. Combining the findings, CM can be defined as a bundle of strategies, instruments, organizational structures, and underlying competencies of counterfeiters for infiltrating existing legitimate markets without or less of their own R&D investments before, at the time, or af-

ter a new legal original product is available. A corresponding framework for CM is presented in section 4 after explaining the theoretical background in section 3. To conclude, the following propositions are drawn from the literature review to address RQ 1 and RQ 3:

P 1.1 *Counterfeiters can be described by internal organizational structures and their individual set of competencies. Differences in competencies indicate different types of counterfeiters.*

P 1.2 *CM consists of specific strategies and instruments. The practical application varies across different types of counterfeiters.*

P 3.1 *As counterfeiters are subject to protection or prosecution efforts of rights holders and governmental authorities, the outcome of CM can be estimated by analyzing the success of anti-counterfeiting.*

3. Theoretical background

The conceptual framework is derived from three main sources: (1) Propositions from the literature review are used to develop a basic understanding of the phenomenon. (2) To complement these insights, a foundation based on configurations research is built. (3) A mixed-method research approach using qualitative and quantitative data further explores corporate CM.

3.1 Research in configurations

The term organizational configuration "*denotes any multidimensional constellation of conceptually distinct characteristics that commonly occur together*" (Meyer et al. 1993, p. 1175) in terms of organizational strategies, structures, and processes (Ketchen et al., 1993; Miller, 1996). Configurations are a common element of organizational analysis and strategy research (Carper & Snizek, 1980; Ketchen et al., 1997; McKelvey, 1982; Rich, 1992). They can arise from theoretically developed deductive typologies, such as Mintzberg's (1979) distinction between organizational structures and the organizational types of Miles and Snow (1978), or they can be derived empirically into inductive taxonomies, such as that of Galbraith and Schendel (1983) concerning strategy types and the analysis of Homburg, Jensen, and Krohmer (2008) concerning the interface between marketing and sales. Both approaches can be valuable and even complementary when describing organizational configurations. Thus, a configurational approach takes a systematic and holistic view of the overall patterns of multiple variables on organizational and strategic issues of CM as a complex phenomenon. The effects of configurations are typically identified by the relationship to one or more outcome variables, such as performance indicators (Ketchen et al., 1997). Contrary to contingency theory, configurational inquiry facilitates insights into the equifinality of outcome achievement by multiple configurations and abandons the view of one optimal equilibrium configuration (Fiss, 2007). Basically, configurations are studied at the individual, organiza-

tional, group industry, or environmental level (Ketchen et al., 1997). With respect to research in strategic management, three main levels of analysis exist: (1) industry, (2) strategic groups, and (3) the firm (Short, Palmer, & Ketchen, 2003a, b; Short, Ketchen, Palmer, & Hult, 2007).

At the industry level, the impact of industry membership on firm performance (which is influenced by market structure and other elements, such as industry concentration, growth, and entry barriers) is analyzed in the classical industrial organization literature (Bain, 1956, 1959; Schmalensee, 1985). For strategic management, industry characteristics, such as environmental factors, should be analyzed to understand firm performance in terms of strategic perspectives and actions (Slevin & Covin, 1997; Sutcliffe & Huber, 1998). Such analysis can include complexity, regulatory changes, and rivalry (Cool & Dierickx, 1993; Reger, Duhaime, & Stimpert, 1992; Wiseman & Bromiley, 1996; Zajac & Bazerman, 1991). Several studies show that industry effects play an important role in determining firm performance in terms of profitability (Chang & Singh, 2000; Mauri & Michaels, 1998; McGahan & Porter, 1997; Rumelt, 1991).

The concept of strategic groups (Hunt, 1972) analyzes and characterizes the group structures of firms that are homogeneous in terms of goals, resources, and assumptions for pursuing strategies within the same industry (Cool & Schendel, 1987, 1988; Porter, 1979, 1980, 1985; Reger & Huff, 1993; Thomas & Venkatraman, 1988). Mobility barriers and the associated costs determine the ease of group entry and exit (Caves & Porter, 1979). These barriers can be categorized as relevant market-related strategies, industry and firm characteristics (McGee & Thomas, 1986). Companies cannot shift group membership easily because of the associated risk of high investments for the development of new skills and products, which may lead to lower profitability without the security of increased revenues (Mascarenhas & Aaker, 1989). The relationship between these group structures and firm performance is a common topic for empirical research (Cool & Schendel, 1987, 1988; Fiegenbaum, Hart, & Schendel, 1996; Fiegenbaum & Thomas, 1990). Staake and Fleisch (2008) and Staake et al. (2011) referred to this concept to develop a classification of counterfeiters.

At the firm level, an individual company or business unit's resources, capabilities, and routines provide the basic elements for superior performance (Barney & Arikan, 2001; Crook et al., 2008; Newbert, 2007). Although the determinants of value are not completely indisputable (Sanchez, 2008), resources, and consequently capabilities, should be valuable to customers, rare among competitors, and difficult to imitate or substitute to generate a competitive advantage (Barney, 1991, 1995; Peteraf, 1993). From a static perspective, the differences between firms are derived from their abilities to acquire and deploy their (core)competencies (Amit & Shoemaker, 1993; Barney, 1991; Dierickx & Cool, 1989; Grant, 1991; Mahoney & Pandian, 1992; Prahalad & Hamel, 1990; Rumelt, 1984, 1991; Wernerfelt, 1984).

From a dynamic perspective, a firm has to integrate, reconfigure, gain, and release resource and (core)competence configurations to sustain a competitive advantage (Eisenhardt & Martin, 2000; Grant, 2008; Helfat et al., 2007; Henderson & Cockburn, 1994; Teece, Pisano, & Shuen, 1997). Moreover, appropriability regimes as environmental factors determine advantages for innovators, legal imitators, and illegal counterfeiters (Teece, 1986, 2000, 2009). In addition to the studies already mentioned, configurational studies from a resource perspective can be found in strategic management research. For instance, Gruber, Heinemann, Brettel, & Hungeling (2010) conducted an exploratory study on technology ventures using (in)tangible resources and capabilities to develop a taxonomy for sales and distribution, whereas Fang, Palmatier, & Grewal (2011) investigated the effects of customer and innovation asset configuration strategies to analyze resource performance relationships.

To sum up, the applicability varies between the industry and the resource perspectives at firm levels of analysis, with strategic groups as an intermediate level. The latter two perspectives in particular provide a basis for firm-related research, because they explain diversity within and between industries. Although not naturally complements, both perspectives share common elements for analyzing performance effects (Short, 2007). In both perspectives, firms attempt to formulate strategies that are difficult to imitate. Either isolating mechanisms (Rumelt, 1984) or mobility barriers (Hunt, 1972; Mascarenhas & Aaker, 1989; Porter, 1979) are used to inhibit imitation. Neither of the isolated perspectives provides a complete explanation of firm performance. The integration of both views can lead to a better understanding of how firms can achieve outcomes by linking firm resources, strategic group membership, and environmental factors to performance (Joyce, 2003; Leask & Parnell, 2005; Mahoney & Pandian, 1992; Rouse & Daellenbach, 1999, Short et al., 2003a).

Besides the role of country- and industry-specific enforcement of intellectual property rights (Keupp, Beckenbauer, & Gassmann, 2009, 2010), counterfeiters use strategies and instruments that depend on specific capabilities and competencies for mutual competition (Chaudhry & Zimmerman, 2009; Staake et al., 2011; Trott & Hoecht, 2007) to obtain a competitive advantage. Therefore, the detection of and linkage among relevant competencies and strategies to derive configurations, and their influence on outcome variables, needs to be analyzed in more detail. In order to study these issues, a mixed-methods approach is used, as discussed in the following section.

3.2 Mixed-methods research

The selection of the sample, variables, and methods is important for investigating CM configurations, because study outcomes may be affected (Ketchen et al., 1997).The basic problem arising from the complexity of the counterfeiting phenomenon is the relative absence of related academic literature and existing qualitative or quantitative data. Thus, primary data must

be acquired directly. Unfortunately, empirical research on CM has to face limited access to illicit market participants, difficulties in obtaining quantitative information on clandestine illicit market activities, and the secrecy of counterfeiters respectively their unwillingness to participate in academic research. Therefore, an indirect procedure involving questioning of rights holders is required. While Staake et al. (2011) relied on a product-centered approach to investigate counterfeiters, this study emphasizes a broader set of capabilities along with strategies and instruments. Given this different objectives, only rights holders can be questioned, although they do not speak completely without reservation about the topic due to corporate confidentiality policies or a lack of knowledge concerning counterfeiters (Chaudhry & Zimmerman, 2009; Staake et al., 2011). Thus, CM can be characterized as a research field that is new, poorly understood in terms of variables, hard to quantify, and difficult to investigate due to a lack of data.

These characteristics suggest that a mixed-methods research approach is appropriate to explore CM competencies (Creswell, 2009; Molina-Azorin, 2007). Mixed-methods research combines qualitative and quantitative data collection and data analysis in a single study or in multiple phases of a program (Creswell & Plano Clark, 2011; Johnson & Onwuegbuzie, 2004; Johnson, Onwuegbuzie & Turner, 2007; Teddlie & Tashakkori, 2003). In organizational and strategic management research, mixed-methods approaches have attracted growing attention (Molina-Azorin, 2012; Molina-Azorin & Cameron, 2010), as they have in related fields, such as human resource management (Kiessling & Harvey, 2005), quality management (Tari, 2011), marketing (Koll, von Wallpach, & Kreuzer, 2010), and accounting (Modell, 2009). As compared to a mono-method approach, combining qualitative and quantitative research may provide a better understanding of research problems and complex phenomena (Bryman, 2006, 2007; Creswell, 2009; Creswell & Plano Clark, 2011; Greene, Caracelli, & Graham, 1989; Johnson & Onwuegbuzie, 2004). For mixed-method approaches, two basic quality criteria should be fulfilled. First, the interaction between different phases and methods should be meaningful and suitable to the research questions. This requirement is met by the work outlined above. Second, different phases should individually fulfill the relevant quality criteria. Therefore, qualitative and quantitative criteria are used in section 4 (Bryman, Becker, & Sempik, 2008; Creswell & Plano Clark, 2011). Consequently, a sequential exploratory research design with two phases is used to develop an understanding of CM configurations.

In phase 1, a qualitative procedure derives relevant information about competencies at a corporate level. Since this study is exploratory in nature, the variable selection is based on a cognitive approach with industry experts to ensure the trustworthiness of the variables for the clustering procedure in phase 2 (Ketchen & Shook, 1996; Mascarenhas & Aaker, 1989; Reger & Huff, 1993). An emergent qualitative research design allows the establishment of a basic framework at the beginning of the research process and the specification of new ele-

ments motivated by mid-experiment findings (Cassell & Symon, 2009; Creswell, 2009; Denzin & Lincoln, 2011). MAXQDA 2010 (VERBI, 2011) is employed as the data analysis software, based on the qualitative content-analysis method (Mayring, 2000, 2002). The findings result in a novel questionnaire used to gather quantitative information from a second group of respondents in the next phase. Recommendations for the selection of input variables for cluster analysis are manifold. In addition to inductive and deductive approaches, methods can be categorized according to the number of variables used to describe a sample's characteristics. Researchers can integrate many variables to incorporate considerable information, or they can rely on only a few variables for classification by carefully selecting the most important elements (Ketchen & Shook, 1996; McKelvey, 1975). In configurational research and cluster analysis, the selection of dimensions is a compromise between the desire to replicate reality accurately and the practical necessity to generalize (Carper & Snizek, 1980; McKelvey, 1982; Meyer et al., 1993). This study follows the latter approach, because variables that do not help differentiate between clusters can instead distort group detection (Punj & Stewart, 1983). The independence of cluster variables must also be considered during the selection process. As cluster methods do not rely on uncorrelated variables, empirical correlation and conceptual overlap are permitted (Milligan, 1996). Discriminant validity is assured by the validation of anti-counterfeiting experts. Following these remarks, the conceptual model is based on (1) a parsimonious set of domains that reflect the necessary counterfeiting competencies and (2) descriptive variables which are not included in the clustering procedures but are used to further characterize the clusters. All subsequent calculations are performed in SPSS 19, ALMO 14, and Microsoft Excel 2007. Detailed descriptions of phase 1 (section 4.1), the competence-based framework for CM (section 4.2), and phase 2 (section 4.3) are presented in the next section.

4. Research Methodology

To develop the competence-based model of CM, a multi-dimensional taxonomy is used. The underlying competencies are identified in subsection 4.1 as domains that eventually constitute the specific constructs in subsection 4.2. Outcome and control variables are presented to describe the taxonomy in more detail. The two-stage approach for clustering procedures and analysis of variance in phase 2 completes the methodology in subsection 4.3.

4.1 Phase 1: Qualitative procedures

4.1.1. Data collection and sample description

Adequate triangulation of information and researcher control are required for the qualitative data collection because of the indirect information acquisition that is necessary owing to the lack of available CM data (Cassell & Symon, 2009; Creswell, 2009; Denzin & Lincoln, 2011; Rubin & Rubin, 2005). Multiple qualitative instruments, including semi-structured expert in-

terviews with open-ended questions and interview transcripts, case studies, and internal documents are employed. Previous studies have used these instruments successfully to acquire information from anti-counterfeiting experts (Chaudhry & Zimmerman, 2009; Keupp et al., 2009, 2010; Staake et al., 2009, 2011). Given the early stage of research, CM is explored in phase 1 by focusing on a high level of comprehensiveness and generalizability (table 2). Overall, 280 interviews with representatives from 184 companies and institutions were conducted from August 2007 to July 2010. Only experts directly linked to counterfeiting as part of their work, irrespective of their hierarchical positions, were selected for the subsequent data analysis. Consequently, the analysis is conducted for 230 exploratory interviews with 247 anti-counterfeiting experts who cover a wide range of operating positions and hierarchical levels and possess anti-counterfeiting experience ranging from three months to 15 years.

Table 2: Sample overview, phase 1

Function	Share (%)	ISIC Section[1]	Share (%)
Management	15.4	Manufacturing	57.1
Legal Dept.	14.6	Professional, scientific and technical activities	14.7
Anti-Counterfeiting	9.7	Other service activities	9.2
IP Management	8.9	Information and communication	8.2
R&D/TIM	8.1	Transportation and storage	4.3
Academic Research	5.3	Construction	3.8
Marketing	3.6	Public administration and defense; social security	1.1
PR/Communication	3.6	Wholesale and retail trade	0.5
Corporate Security	2.8	Education	0.5
Business Development	2.4	Administrative and support service activities	0.5
Sales Dept.	2.4		
Product Management	1.6		
Quality Management	1.6		
Mgmt. Accounting	1.2		
Other[2]	3.6		
Not provided	15.0		

1 = International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4 (UN 2008); 2 = Foreign Affairs, Statistics, Production/Manufacturing, Key Account Management, Informatics, Parts, and Project Management

The interview topics were developed from the body of knowledge on CM from the relevant literature and from insights into the anti-counterfeiting efforts of the interviewees. As data collection and data analysis are simultaneous processes in qualitative research (Huberman & Miles, 2002; Marshall & Rossman, 2006), questions in the first draft of the interview guideline were tested with representatives of German industry associations. After two revisions, the final guideline consisted of three sections. First, the experts were asked to characterize the economic, consumer, geographical, legal, product, social, and supplier aspects of a typical counterfeiting case in their fields of expertise. In the second and third sections, CM was discussed in terms of aims, competitive advantages, dynamic capabilities, competencies, strategies, instruments, processes, supply chains, and organizational structures.

4.1.2. Data analysis and quality assurance

An inductive approach was used to develop and summarize the categories for software-based content analysis and deductive category application for structuring data (Mayring, 2000, 2002). Open coding (defining new codes for interesting aspects identified while reading the documents) allowed for new sub-categories to be integrated into main categories and for entire new main categories to be added. The coding system was revised five times during data analysis by merging, adding, or separating the extracted passages. The final conceptual framework is described in the next section. Table 3 provides information concerning qualitative validity and reliability according to Creswell (2009) and Gibbs (2007).

Table 3: Quality assurance in phase 1

	Criteria	Research Design	Instrument Selection	Data Collection	Data Analysis	Results
Reliability	Transcripts	Transcription rules	Summary transcripts	Informant check; 40 interviewers (2 per interview); interviewer training	Researcher; peer discussion	n/a
	Codes	n/a	n/a	Memos	Coding rules; memos	Documentation
	Communication	No team coding; research meetings for preliminary discussion				
	Cross-checking	Process documentation	n/a	Case study	5 coding repetitions	Case studies
Validity	Triangulation	Multiple topics	Expert interviews; case studies	Multiple actors, industries, and functions	Category system	Cases; transcripts; internal documents
	Member checking	n/a	n/a	Interviewee approval	Follow-up calls	n/a
	Description	Literature review	Instrument description	Sample description	Instrument description	Result description
	Researcher bias	Literature review	Interviewer ≠ researcher	Interviewer ≠ researcher	Codified procedure	n/a
	Discrepant information	n/a	n/a	Two interview guides; follow-up calls; cases	Discussion & verification	Discussion
	Time	business projects; long project duration				
	Debriefing	Experts for qualitative methods; colleagues; presentations; expert talks				
	External auditor	Research meetings	Research meetings	Research meetings	Research meetings	Conferences

4.2 A competence-based framework for counterfeiting management

The conceptual framework for the grouping variables is derived from content analysis of the transcripts and the cross-case analysis. Interview partner 136 (a private investigator) summarized the basic idea: "*You can identify methods and aims from the modus operandi*."[2] Following this recommendation, a combination of process- and competence-oriented perspec-

[2] All translations by the author.

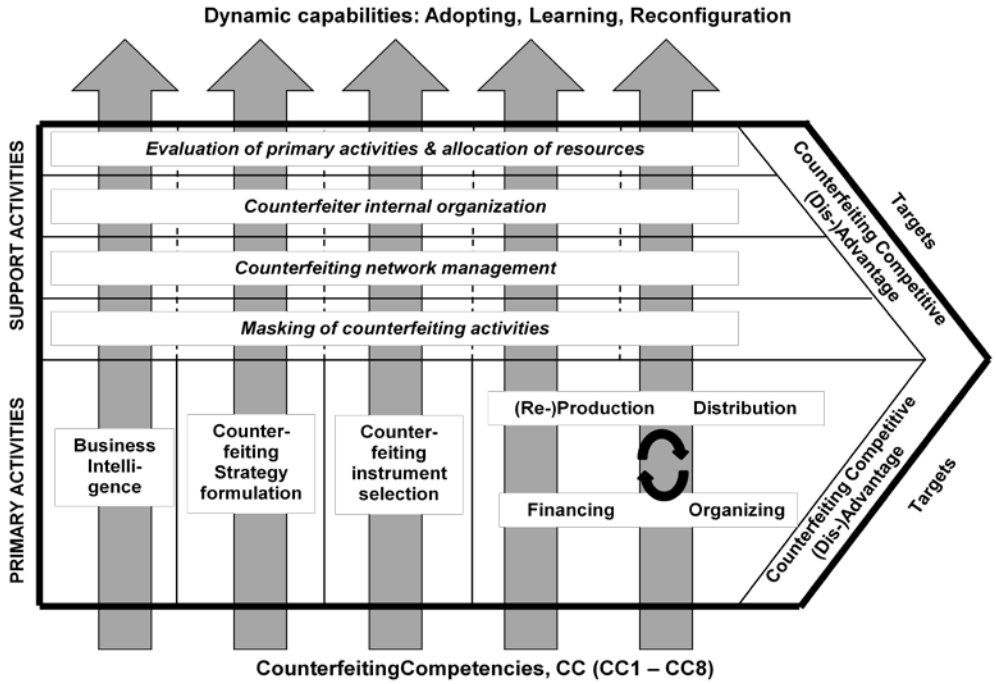
tives was used to develop a framework. CM can be divided into primary and support activities to generate company-specific (dis)advantages and to provide value to customers. Not only can the primary and supporting activities elucidate CM, but the underlying competencies can identify the outcomes of counterfeiting. As expert 138, a corporate security manager, illustrated: *"Not only the physical counterfeits matter; counterfeiters need know-how and specific capabilities for development."* Thus, CM competencies are derived from the transcripts as grouping variables that allow a more detailed analysis of CM configurations. All dimensions are considered reflective and are measured using a 5-point scale (strongly disagree/no not at all = 1; strongly agree/completely = 5). The items for each dimension are equally weighted. To prevent rater bias, the scale is sometimes inverted in the survey and recoded afterwards. The setting is revised twice by integrating the recommendations from members of anti-counterfeiting working groups of two business associations to ensure reliability. Cronbach's alpha (CA) is reported for each capability dimension individually, as is the reflective index itself in appendix A (Field, 2009).

4.2.1 Counterfeiting management

CM at a corporate level can be separated into (1) the direct counterfeiting process (primary activity), and (2) supporting activities required for successful counterfeiting (figure 1). The primary activities directly address the different stages of counterfeiting value creation. Like rights holders, counterfeiters have to generate business intelligence, formulate strategies, select instruments, start the core counterfeiting activity specifically (re)production, financing, distribution, or organization, and disseminate the results of their activities. Supporting activities are not involved in the direct value-creation process, but support the primary counterfeiting process. These actions include the masking of counterfeiting activities, counterfeiting network management, internal organization structures, and the evaluation of all processes as well as the allocation of specific resources to realize the counterfeiting business model. According to the experts, a counterfeiter's competence (CC) as a follower is reflected in the potential to acquire and assimilate the knowledge of others and the realization of opportunities by transforming and exploiting knowledge for counterfeiting. Therefore, inspired by the concept of absorptive capacity, firms have the potential capacity to acquire and assimilate the knowledge of others as well as the realized capacity to transform and exploit that knowledge into an output, e.g., products (Cohen & Levinthal, 1989, 1990; Zahra & George, 2002). As it is assumed that counterfeiters aim to profit from the efforts of rights holders, they have to identify (CC_1) existing business opportunities (namely, "market potential," "sample acquisition," "counterfeit feasibility," and "legal consequences") to determine the risks and chances of counterfeiting. Integration (CC_2) refers to the "assimilation" of knowledge of the most important parts of an original product ("component identification") and combining all necessary

information (“information combination”). According to the experts, a counterfeiter’s transformation capability (CC_3) is reflected by the degree of “technology,” “quality,” and “financial resources” to start counterfeit production.

Figure 1: A basic framework for counterfeiting management analysis



Exploitation (CC_4) refers to commercialization, which is represented by the “distribution” ability and the “market know-how” of counterfeiters. Networking (CC_5) refers to the complexity and connections of a counterfeiting network. It is reflected by a counterfeiter’s “network management,” “forming” of networks, and the ability to direct network partners (“leading”). Strategy (CC_6) describes the capability to formulate adequate counterfeiting strategies (“general strategy”). Moreover, a counterfeiter has to prove competence in selecting counterfeiting instruments (CC_7, “selection/application”). Owing to the illegal nature of counterfeiting, companies with such a business model have to manage the masking (CC_8) of their operations (“management”). CA for three capabilities (CC_1_IDE, CC_2_INTE, CC_4_EXP) is low (Peterson, 1994). Relying on the experts to provide meaningful content (overall reliability is .76), having a low number of indicators, and in this early-stage research, the items are used for cluster analysis (Everitt, Landau, Leese, & Stahl, 2011; Peter, 1979; Schmitt, 1996). The following propositions arise for RQ 1 and P 1.

P 1.1.1 Internal organizational structures of counterfeiters include primary and secondary activities. Primary activities directly focus on counterfeiting, including generating business intelligence, strategy formulation, instrument selection, and acting in network structures of reproducing, financing, distributing, and organizing counterfeits. Secondary activities support counterfeiting and consist of resource allocation and

performance measurement, organization of internal and external organizational structures, and masking of all operations.

P 1.1.2 Counterfeiters are second in market entry, at least for new products. Therefore, the competence of companies for counterfeiting is reflected by their underlying identification, assimilation, transformation, exploitation, networking, and strategic, instrumental, and masking capabilities.

4.2.2 Outcome and descriptive variables

For both strategic group- and resource-based research in terms of configurations, outcome and descriptive variables help to contrast performance differences between groups and explore these differences in more detail (Daellenbach & Rouse, 2007; Short et al., 2007). In this study, two outputs, six variables for the illegal business model, and several CM-oriented variables are explored (appendix A).

The results from phase 1 show that addressable outcome measures for CM are scarce. Financial figures are not available in databases, companies do not or are not able to measure their opponents' CM efforts, and the profits or losses of counterfeiters are not disclosed. For this study, outcome variables measure CM success indirectly using a two-dimensional construct that considers estimated current anti-counterfeiting by rights holders (anti-counterfeiting management, ACM) and dynamic capabilities of counterfeiters as long-term development opportunities. Current CM success is characterized indirectly using four measures to evaluate anti-counterfeiting efforts by rights holders: First, rights holders and counterfeiters compete for a given sales volume. Thus, the first item is "protection of sales volume," which describes the ability of the rights holder to stabilize sales. Second, anti-counterfeiting should lead to fewer counterfeits for a specific rights holder, and "reduction of counterfeits" represents these efforts. Third, as anti-counterfeiting may be a source of competitive advantage in legal competition (e.g., the rights holder in question successfully avoids counterfeiters but competitors do not), anti-counterfeiting success compared to other legal competitors is evaluated. Finally, the outcome of anti-counterfeiting is measured by "success compared to counterfeiters" for direct comparison. These variables are computed to the index (SUC_INDEX4), representing the overall outcome measure with high reliability. The lower the number, the higher the success of CM. Dynamic capabilities for counterfeiting (CM_DC) consist of environmental and company-specific variables. "Adoption" refers to the creation of a CM system in accordance with country-specific environmental changes, e.g., in jurisdiction. "Learning" describes a counterfeiter's ability to create experience from previous efforts. Due to prosecution, "reorganization" represents the possibility of reorganizing the illegal value chain. "Reconfiguration" is used to describe the environment-related flexibility in

applying counterfeiting strategies and instruments. For RQ 3 and P 3.1, the following statement seems appropriate.

P 3.1.1 CM performance can only be measured directly if corresponding corporate financial data are publicly available or companies are able and willing to provide them. Nevertheless, it can be estimated by analyzing short-term success in anti-counterfeiting and the long-term development of dynamic counterfeiting capabilities.

For the general description of CM, six variables capture the illegal business model. “Counterfeiter orientation” (“manufacturing” = main focus in production; “distribution” = main focus in distributing counterfeits) and “counterfeiter behavior” (“intention” = degree of a focused attack; “specialization” = product range in terms of counterfeits) complement “product piracy” and “trademark piracy.” Product piracy represents the infringement of industrial property rights (e.g., patents) and trademark piracy indicates the violation of trademark law. To further explore the different configurations, 8 strategies and 15 instruments are used in the survey. From a strategic perspective, three different elements are included. (1) Value chain considerations include “intrusion” (penetration of the legitimate value chain) and “value chain” (establishment of an illegal value chain). (2) Positioning may include the original equipment manufacturer (“OEM”) (positioning the counterfeiter as a rights holder to deceive customers) or “supplier” (positioning the counterfeiter as a supplier to the rights holder). (3) Intellectual property rights (IPR) and technology related elements consist of “secrecy” (keeping the counterfeiting efforts secret), “intellectual property” (application of an IPR related strategy to hinder prosecution), “technology” (catching up on technological deficits), and “legality” (becoming a legal competitor in the long run). To portray CM instruments, six different elements are integrated: Managerial measures are human-resource instruments, such as “bribery” (bribing stakeholders) and “headhunting” (recruiting (former) employees of a rights holder) or logistics items like “relocation” (permanent relocation of production and distribution subsidiaries). Technological instruments are represented by “reverse engineering” (examining original products). Legal instruments consist of “filing intellectual property rights” (applying and using intellectual property rights) and “intellectual property destruction” (attacking existing property rights in a legal way). Stakeholder-oriented instruments are “supplier” (acquiring components from suppliers of the rights holder), “customer” (attracting customers of the rights holder), and “outsourcing” (offering outsourcing services to rights holders). “Espionage” (conducting industrial espionage), “documents” (analyzing and copying a rights holder’s documents), and “trade fairs” (using trade fairs for information acquisition or counterfeit presentation) are informatory instruments. Tools for distribution are “online distribution” (using online sales platforms for distribution), “specific distribution” (using counterfeiting-specific distribution, e.g., smuggling), and “parallel trade.” Finally, one question inquires into the timing of CM by asking about the occurrence of the first counterfeit by a particular counterfeiter in the lifecycle of

the original product (Day, 1981). To conclude this section, the following statements for RQ 1 and P 1.2 should be added.

P 1.2.1 CM consists of value-chain considerations, positioning aspects, and technology and IPR issues as basic strategies. Instruments of counterfeiters can be distinguished as legal, technical/technological, informational, and managerial, as well as distribution- and stakeholder-oriented measures.

P 1.2.2 In addition to strategies and instruments, counterfeiters also apply different business models. Therefore, the magnitude of product and trademark piracy, the basic orientation, and the behavior should be evaluated.

4.3 Phase 2: Quantitative procedures

4.3.1 Data collection and sample description

For data collection, an online web survey was constructed using the open-source LimeSurvey software. The questionnaire (appendix A) was derived from the findings in phase 1. Based on the feedback from a first-draft pretest of 60 graduate students and doctoral candidates, questions were reformulated or eliminated as needed. The online survey was open for a six-month period between September 2010 and February 2011. To generate a broad sample structure across different industries, countries, and companies, anti-counterfeiting experts from 17 business associations participated in this survey (table 4).

Table 4: Participating associations

Association	Industry sector	Company type	Country focus
ACG: Anti Counterfeiting Group	CG[2]& IG[3]	MNC	U.K.
AIM: European Brands Association des Industries de Marque	CG & IG	MNC	Europe
AIWG: Automotive Industry Working Group	Automotive	MNC	China
APM: German Anti-Counterfeiting Association	CG & IG	MNC, SME	Germany
BOPG: Brand Owners Protection Group	CG	MNC	UAE
CBFA: Customs Brokers & Forwarders Council of Australia	CG & IG	MNC	Australia
CIPR: Coalition for Intellectual Property Rights	CG & IG	MNC	Global
ICC[1] BASCAP: Business Action to Stop Counterfeiting and Piracy	CG & IG	MNC	Global
ICC Belgium	CG & IG	MNC, SME	Belgium
ICC Mexico	CG & IG	MNC, SME	Mexico
ICC Thailand	CG & IG	MNC, SME	Thailand
INSME: International Network for SMEs	CG & IG	SME	Global
MARQUES: Association of European Trademark Owners	CG & IG	MNC, SME	Europe
Orgalime: European Engineering Industries Association	Engineering	MNC, SME	Europe
SACG: Swedish Anti-Counterfeiting Group	CG & IG	MNC, SME	Sweden
SIGNO: Idea Protection for commercialization	Inventors	S(M)E	Germany
VDMA: Product and know-how protection, a working group within the German Engineering Federation	IG	MNC, SME	Germany

1 = International Chamber of Commerce; 2 = consumer goods; 3 = industrial goods.

The participants were asked to answer the questionnaire only if they were engaged in the specific field. To limit recognition bias in answering the questions for CM, experts were in-

structed to use one example from their experience within the last three years. Since relevant financial data for CM is not available, a common method bias could arise due to the derivation of the cluster variables and outcome measures from the same respondents. Thus, each respondent was instructed to refer to one specific counterfeiting case for one product and to the one country that the respondent knew best. The questionnaire included short descriptions of the questions to support understanding. Respondents were able to omit a question if they were not allowed or not able to answer it. To maximize accurate answers, all participants received an executive summary of the study (Conway & Lance, 2010; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff, MacKenzie, & Podsakoff, 2011). Owing to confidentiality concerns of the associations and of the participating experts, direct contact (which would enhance the responses) was avoided. As no absolute number of possible anti-counterfeiting experts for each association can be reported, non-response bias cannot be analyzed. The sample in table 5 focuses on the manufacturing industry (85.5%), with machinery and equipment, computers and electronics, other manufacturing, and others (such as sporting goods, games, or medical instruments) as dominant industry divisions (UN, 2008).

Table 5: Sample overview in phase 2

Industry division by ISIC Rev. No. 4		Position of respondent		Experience respondent (years)	
Machinery and equipment	17.5%	IP Management	22.7%	<1	6.6%
Computers and electronics	10.0%	Legal Department	18.5%	<3	12.8%
Other manufacturing	7.1%	Anti-Counterfeiting	11.4%	<5	18.5%
Electrical equipment	7.1%	General Management	11.4%	<7	20.9%
Pharmaceuticals	6.6%	Marketing Department	8.5%	7+	25.6%
Motor vehicles	5.7%	Corporate Security	5.7%	MV	15.6%
Furniture	5.2%	R&D	5.7%		
Textiles	4.3%	Others[3]	13.2%		
Other[2]	4.7%	MV	10.9%		
MV[1]	31.8%				

Country by income $ (World Bank Classification)		Company size by number of employees		Company size by sales volume in US$	
Low (<1,005)	0.5%	0–499	12.8%	0–499 Mio.	28.4%
Lower-middle(1,006–<3,975)	1.4%	500–999	6.6%	500–999 Mio.	10.9%
Upper-middle(3,976–<12,275)	65.4%	1,000–4,999	18.5%	1–4.99 Bn.	20.4%
High-income non-OECD (>12,276)	2.8%	5,000–9,999	11.4%	5–9.99 Bn.	7.1%
High-income OECD (>12,276)	27.5%	10,000+	35.1%	10 Bn.+	16.6%
MV	2.4%	MV	15.6%	MV	16.6%

N = 211; 1= Missing value; 2 = Wholesale/retail trade, chemicals, plastics products, etc.; 3 = (In-house) consulting, quality management, manufacturing, etc.

Altogether, the author received 211 responses. Only those questionnaires wherein over 50 percent of the answers were completed (N = 156), were used for subsequent calculations. Outliers were deleted and missing values excluded pairwise. The respondents are portrayed using “position by occupation” and “experience in anti-counterfeiting by years.” Over 45% of the respondents had been engaged in anti-counterfeiting for more than five years and worked in intellectual property, legal, or anti-counterfeiting departments. The main focus of

counterfeiting activities lies in transition countries, which are represented by the upper-middle income economies according to the World Bank Classification (WB, 2012).

4.3.2 Data analysis

Cluster analysis provides an established technique in strategic management research for organizing and simplifying multivariate data sets into clustered configurations (Aldenderfer & Blashfield, 1984; Blashfield & Aldenderfer, 1978; Ketchen & Shook, 1996). Shortcomings can be caused by a strong reliance on researcher judgment, an insufficient knowledge of clustering algorithms, or a missing underlying theoretical rationale (Barney & Hoskisson, 1990; Meyer, 1991; Reger & Huff, 1993; Thomas & Venkatraman, 1988), which can result in inaccurate or artificial depictions (Ketchen & Shook, 1996). To address possible limitations, phase 2 follows the recommendations of Ketchen and Shook (1996) and Everitt et al. (2011) for (1) clustering variables, (2) clustering algorithms, (3) determining the number of clusters, and (4) validating the clusters.

(1) As stated in section 4.1, this study uses a cognitive approach to select variables and derives inductive configurations to explore CM to enhance accuracy. Since all grouping variables are measured on the same 5-point scale, there are no substantial differences among (non-)standardized variables, and to provide a meaningful interpretation, no standardization of the variables is applied (Edelbrock, 1979; Milligan, 1980). The inspection of the histograms and Q-Q plots implies approximately normal distributed data (Field, 2009). Multi-collinearity among the grouping variables might influence cluster results. The correlation matrix and factor analysis can be used to examine this issue. In table 6, the correlation matrix for all clustering variables is shown.

Table 6: Pearson correlation and descriptive statistics of the clustering variables

Variables	Means	S.D[1].	1	2	3	4	5	6	7	8
CM N = 156										
CC_1_IDE	3.97	.55	1	.39**	.17*	.45**	.23**	.41**	.47**	.19*
CC_2_INTE	3.40	.79		1	.56**	.28**	.19*	.23**	.29**	.02
CC_3_TRANS	2.81	.66			1	.18*	.15	.18*	.25**	.06
CC_4_EXP	3.85	.60				1	.43**	.31**	.50**	.38**
CC_5_NET	3.20	1.0					1	.48**	.45**	.43**
CC_6_STR	3.28	.96						1	.57**	.35**
CC_7_INST	3,58	.81							1	.45**
CC_8_MASK	3.52	1.0								1

** Correlation is significant at the .01 level (2-tailed); * Correlation is significant at the .05 level (2-tailed); 1 = Standard Deviation

All values are at an acceptable level below .9 (Field, 2009). The results of principal component factor analysis with and without orthogonal rotation also indicate an alternative solution, because the KMO and Bartlett tests are significant. This approach is rejected for two reasons. First, factors with an eigenvalue less than 1 should be excluded. This leads to an alternation of the framework and is contrary to the experts' experience. Second, the distances be-

tween the clusters may be changed, contradicting the underlying empirical structure (Aldenderfer & Blashfield, 1984; Dillon, Mulani, & Frederick, 1989).

(2) Cluster analysis identifies classifications for specified variables by minimizing within-group distances (or variances) and maximizing between-group distances (or variances) (Ketchen & Shook, 1996). Hierarchical clustering techniques are based on stepwise agglomerative (adding objects) or divisive (deleting objects) algorithms using (dis)similarity measures. Despite having several limitations (such as non-repeated measurement and sensitivity to the number of cases used for clustering), hierarchical solutions do not require a priori specified numbers of clusters, and thus they are suitable for exploring configurations. They are preferred for the examination of a wide range of alternative clusters and a sample size below 300 observations (Hair, Black, Babin, Anderson, & Tatham, 2007). Nonhierarchical clustering algorithms iteratively separate a dataset into clusters. On the one hand, they are less influenced by outliers because alternating cluster membership is allowed and repeatedly passes through the data optimized homogeneity within and heterogeneity between the final cluster solutions (Everitt et al., 2011). On the other hand, the number of clusters has to be specified a priori, a problem for exploratory inductive research (Milligan, 1980; Milligan & Cooper, 1985). Milligan (1980) and Punj and Stewart (1983) have shown that the combination of both procedures increases validity. Consequently, this study uses a two-step approach to explore CM through hierarchical agglomerative clustering to determine the cluster solution and nonhierarchical clustering to assign observations to the clusters applying the squared Euclidian distance measure (Ng, Westgren, & Sonka, 2009). The inspection of boxplots and single linkage clustering are used to detect and delete outliers to improve the clustering procedure. Missing values are excluded pairwise as a compromise between data size and quality (Everitt et al., 2011; Field, 2009). Since different clustering procedures can influence the final solution, Rand's index is calculated because it is among the best-performing criteria for examining stability. The Rand statistic measures the proportion of pairs of corresponding vectors belonging either to the same or to different clusters in the partitions derived from clustering algorithms (Brun et al., 2007; Rand, 1971). Thus, the fit to the data for seven individual hierarchical techniques, algorithm groups, and the overall measurement stability were calculated with ALMO 14 with 200 passes (table 7).

Table 7: Aggregated Rand statistics for clustering methods

	Nearest-neighbor		Average (means)		Cluster center			
Research Topic	Complete Linkage	Single Linkage	Average Linkage	Within Average Linkage	Median Linkage	Centroid Linkage	Ward	Grand mean
CM (N=156)	.52	.69	.58	.69	.69	.70	.48	.62
Group Mean	.61		.66		.62			

The grand mean for the instruments is acceptable (.62). Algorithms based on average scores and cluster centers are the most consistent for the given data set. This is in accordance with past studies about cluster analysis, which recommend average scores or cluster centers to provide starting cluster numbers for subsequent partitioning procedures. Contrary to the other algorithms used in the first stage of this study, Ward's method applies a different clustering procedure that minimizes the variance within clusters and maximizes it between them to find clusters with equal distributed cluster numbers (Ward, 1963). Ward's method is considered to provide superior performance among hierarchical algorithms in most cases (Milligan, 1980, 1981a,b; Punj & Stewart, 1983). Following this recommendation, Ward's method is included to find the starting solution despite the limited stability (.48) in this study, which implies the existence of instrument related effects. For partitioning in the second stage, the K-means procedure provides robust results based on an appropriate starting solution (Milligan & Cooper, 1987; Punj & Stewart, 1983). K-means clustering assigns groupings by minimizing the within sum of error squares, which leads to distinction between the different clusters (Everitt et al., 2011; MacQueen, 1967).

(3) Ketchen and Shook (1996) recommend multiple methods to determine the appropriate number of clusters to limit researcher bias. In this study, selection of the final number of clusters is visual and criteria based. In the first step, dendrograms and inverse screeplots provided the starting point for visual inspection. Dendrograms use the hierarchical agglomeration structure, which represents the different points for merging single cases or clusters into new cluster solutions based on the distance coefficient (Everitt et al., 2011) in SPSS 19. Inverse screeplots were calculated with MS Excel 2007 to compare the partition number with the linkage coefficient of the agglomeration structure (Lathrop & Williams, 1987, 1990). Cluster selection by visual inspection may lead to a bias due to misinterpretation by the researcher (Aldenderfer & Blashfield, 1984). Thus, visual inspection was used only to reduce the potential clusters to a maximum of five possible solutions with two to six clusters. In the second step, six indices for determining internal consistency and Rand's index (Rand, 1971) for examining the stability of the identified cluster solutions were computed with ALMO 14 (200 repetitions; $p < .05$). For internal consistency, Mojena's rule 1, Mojena's rule 2, γ coefficient, C-Index, G1 Homogeneity, and W/B Index were selected, all of which are ranked among the top ten indices based on the performance reviews of Milligan (1981a) and Milligan and Cooper (1985). As the first stopping rules, Mojena 1 and Mojena 2 were calculated to further reduce the number of potential cluster solutions based on the overall means and standard deviation, respectively, in the overall regression analysis. These rules examine a confidence interval by analyzing the fusion values at each level in the hierarchy. The first occurrence for which a fusion value exceeded a test value between 2.75 and 3.50 indicated a .997 ($p < .003$) significance level (Mojena, 1977). The graphical solutions were compared with the dis-

similarity matrix for each of the five cluster solutions using the non-parametric γ coefficient (Baker & Hubert, 1975). The coefficient represents the proportion of (in)consistent outcomes involving between-cluster and within-cluster distances, and was calculated for this study at a .95 significance level (γ> .65, p < .05, one-tailed). The C-index compares the maximal and minimal within-cluster distances and determines the level of equal cluster assignments; thus, the C-index should be minimized (Hubert & Levin, 1976). G1 homogeneity uses the difference of the average dissimilarity between and within clusters to characterize a cluster solution (Klastorin, 1983). Since within-cluster dissimilarity should be smaller than between-cluster dissimilarity, G1 values should be maximized. The W/B index indicates the ratio of average within- and between-cluster proximity (McClain & Rao, 1975). Minimal values should be addressed because proximity should be higher within clusters.

All test values for internal consistency across the seven clustering procedures can be found in table 8. To determine the cluster number that should be provided for the application of K-means clustering, a hierarchical assessment was applied based on the ranking of Milligan and Cooper (1985). For reliability, the evaluation was conducted independently by three researchers. First, the C-Index and γ coefficients were examined. Second, G1 homogeneity and Mojena 1 and 2 were inspected. Third, the W/B Index was studied. Fourth, Ward's method was evaluated separately. The last evaluation step considered Rand's index for cluster stability over all clustering procedures.

The five- and six-cluster solutions seemed to perform better compared to other potential solutions. Finally, the five-cluster solution was selected based on the test values. In all but one value (within-average linkage <.5), all γ coefficients were above .5 or .7. The C-Index is good, as it is below .3 for all procedures. G1 homogeneity is positive, which implies sufficient homogeneity. Mojena 1 and 2 as well as the W/B index are better compared to the six-cluster solution. Ward's method is applicable (γ coefficient > .5, C-Index < .3, G1 Homogeneity = 7.306, Mojena 2 is significant) despite the limited overall stability. Only Mojena 1 is not significant and the W/B index is slightly above .5. Measurement errors are seven percent according to Chebyshev's inequality, which is below the threshold value of 10 percent. For all clustering procedures, the average Rand's index is .62. This implies a slightly limited stability of the final cluster solutions caused by the heterogeneous industry sample structure, which is necessary due to the limited availability of anti-counterfeiting experts for the questionnaire and the different clustering techniques themselves. Rand's index for CM can be distorted by raters' restricted knowledge about counterfeiters due to the indirect information acquisition. The five-cluster solution was used to create initial centers for the K-means clustering procedures in SPSS 19. Results were checked for face validity with the members of a working group of a business association and discussed with anti-counterfeiting experts. The derived

clusters were considered meaningful and clearly interpretable configurations of CM (Rich, 1992). The results are described in more detail in section 5.

Table 8: Criteria for the determination of cluster solutions (ALMO 14, 200 passes, $p < .05$)

# Cluster	Mojena 1 (>.997)	Mojena 2 (>.997)	γ coefficient (max; $p < .05$)	C-Index (min)	G1 Homogeneity (max)	W/B Index (min)
CM (N = 156)						
	2.807[1] (.997)	3.942[1] (1)	.557[1]	.285[1]	12.746[1]	.572[1]
	2.461[2] (.993)	2.011[2] (.977)	.753[2]	.156[2]	23.442[2]	.434[2]
	2.079[3] (.980)	2.500[3] (.993)	.461[3]	.270[3]	19.016[3]	.691[3]
6	4.339[4] (1)	2.725[4] (.996)	.602[4]	.224[4]	28.202[4]	.540[4]
	2.806[5] (.997)	2.750[5] (.997)	.494[5]	.225[5]	7.155[5]	.511[5]
	1.724[6] (.957)	5.802[6] (1)	.530[6]	.169[6]	14.950[6]	.626[6]
	2.880[7] (.998)	1.989[7] (.976)	.427[7]	.155[7]	17.647[7]	.806[7]
	3.387[1] (1)	4.480[1] (1)	.517[1]	.249[1]	15.162[1]	.629[1]
	2.461[2] (.993)	1.864[2] (.968)	.732[2]	.155[2]	22.419[2]	.457[2]
	2.370[3] (.990)	2.805[3] (.997)	.587[3]	.270[3]	18.031[3]	.663[3]
5	5.687[4] (1)	4.100[4] (1)	.750[4]	.226[4]	29.329[4]	.544[4]
	3.834[5] (1)	3.948[5] (1)	.770[5]	.155[5]	19.002[5]	.446[5]
	2.072[6] (.980)	6.045[6] (1)	.533[6]	.157[6]	7.308[6]	.550[6]
	2.910[7] (.998)	1.882[7] (.969)	.388[7]	.157[7]	19.595[7]	.827[7]
	3.436[1] (1)	4.001[1] (1)	.477[1]	.228[1]	12.766[1]	.648[1]
	3.218[2] (.999)	2.715[2] (.996)	.793[2]	.157[2]	22.349[2]	.429[2]
	3.947[3] (1)	5.159[3] (1)	.427[3]	.243[3]	21.389[3]	.678[3]
4	7.357[4] (1)	5.828[4] (1)	.587[4]	.226[4]	26.733[4]	.541[4]
	3.424[5] (1)	2.976[5] (.998)	.770[5]	.155[5]	15.204[5]	.418[5]
	2.539[6] (.994)	6.408[6] (1)	.496[6]	.165[6]	8.646[6]	.623[6]
	2.981[7] (.998)	1.831[7] (.966)	.793[7]	.157[7]	22.349[7]	.429[7]
	4.414[1] (1)	4.794[1] (1)	.469[1]	.225[1]	7.335[1]	.634[1]
	4.773[2] (1)	4.347[2] (1)	.868[2]	.158[2]	19.732[2]	.380[2]
	4.629[3] (1)	5.406[3] (1)	.368[3]	.161[3]	19.998[3]	.703[3]
3	6.580[4] (1)	5.156[4] (1)	.823[4]	.175[4]	29.319[4]	.392[4]
	4.225[5] (1)	3.679[5] (1)	.771[5]	.155[5]	15.095[5]	.427[5]
	3.518[6] (1)	7.713[6] (1)	.445[6]	.175[6]	8.014[6]	.650[6]
	3.083[7] (.999)	1.817[7] (.964)	.758[7]	.160[7]	26.523[7]	.441[7]
	7.558[1] (1)	8.264[1] (1)	.386[1]	.212[1]	4.995[1]	.648[1]
	5.491[2] (1)	4.659[2] (1)	.890[2]	.161[2]	26.818[2]	.351[2]
	7.709[3] (1)	8.533[3] (1)	.344[3]	.165[3]	5.546[3]	.701[3]
2	16.143[4] (1)	14.785[4] (1)	.693[4]	.161[4]	19.634[4]	.476[4]
	5.567[5] (1)	4.797[5] (1)	.808[5]	.156[5]	13.976[5]	.418[5]
	10.707[6] (1)	20.444[6] (1)	.384[6]	.193[6]	4.999[6]	.648[6]
	3.117[7] (.999)	1.730[7] (.957)	.606[7]	.163[7]	12.757[7]	.607[7]

1 = Complete linkage; 2 = Single linkage; 3 = Average linkage; 4 = Median linkage; 5 = Centroid linkage; 6 = Ward linkage; 7 = Within-average linkage.

(4) To validate the cluster solution, reliability and external validity have to be ensured. Reliability was assessed via scale development, visual inspection, and extensive criterion-based testing of the cluster solutions. Split half methods were not applied because of the small sample size. Stability was addressed by Rand's index. In addition to the judgment of anti-counterfeiting experts from phase 1 and one business association, external validity was tested by inspection of boxplots and variance analysis applying Kruskal-Wallis tests (Kruskal & Wallis, 1952) with descriptive and outcome variables (Aldenderfer & Blashfield, 1984; Field, 2009; Ketchen & Shook, 1996; Reger & Huff, 1993; Siegel & Castellan, 1988).

5. Results and Discussion

Clustering, descriptive, and outcome variables are used to describe characteristics for the identified configurations based on the Kruskal-Wallis test in table 9. Strategies and instruments are evaluated by the estimated frequency of use. The adjusted values of the Mann-Whitney test were calculated to highlight significant differences for multiple comparisons of means (Field, 2009). Clustering variables, general descriptives, strategies, instruments, and outcomes are presented for each configuration. To further elucidate the different clusters, country, product lifecycle, and industry variables highlight their practical relevance based on Fisher's exact test (Field, 2009). A more detailed description of the findings follows in the subsections. To facilitate interpretation and indicate relevant differences, names are assigned to all clusters, short profiles are presented, and verbal explanations are given. These findings are compared with the insights from phase 1 to ensure a meaningful interpretation.

Table 9: Statistics of clustering, descriptive, and outcome variables for CM

Variables[1]	CM C1 N = 28	CM C2 N = 34	CM C3 N = 3	CM C4 N = 47	CM C5 N = 45	K-W[2]	Adj. values[3]
Clustering Variables							
CC_1 Identification	3.36 (.59)	4.00 (.44)	4.25 (.25)	4.24 (.48)	4.01 (.40)	38.11*	5-1,3,4
CC_2 Integration	2.68 (.63)	3.89 (.65)	4.56 (.77)	3.74 (.59)	3.05 (.61)	65.00*	5-1,2,3; 4-1,2,3
CC_3 Transformation	2.35 (.40)	3.18 (.63)	3.33 (.29)	3.10 (.67)	2.49 (.50)	46.92*	5-1,3; 4-1,3
CC_4 Exploitation	3.30 (.51)	3.70 (.58)	3.44 (.69)	4.34 (.45)	3.83 (.42)	59.16*	5-3,4; 1-3; 4-3
CC_5 Networking	2.35 (.57)	3.10 (.85)	1.33 (.58)	4.16 (.70)	3.00 (.74)	71.26*	2-3; 5-1,3; 4-3; 1-3
CC_6 Strategic capability	2.15 (.60)	3.24 (.75)	2.33 (1.53)	4.07 (.75)	3.30 (.63)	67.97*	5-1,3,4; 1-3; 4-3
CC_7 Instrumental capability	2.61 (.63)	3.68 (.54)	1.33 (.58)	4.18 (.49)	3.66 (.48)	77.81*	2-1,3,4; 5-1,3,4; 4-3; 1-3
CC_8 Masking capability	2.81 (.68)	2.50 (.76)	2.00 (1.00)	4.36 (.57)	3.99 (.50)	101.75*	2-3,4; 1-3,4; 5-3,4
General descriptives / Business Model							
Product piracy	3.15 (1.26)	4.03 (.98)	3.33 (1.53)	3.61 (1.24)	3.31 (1.10)	11.02*	5-1
Trademark piracy	3.46 (1.37)	3.09 (1.40)	2.00 (1.73)	4.09 (1.18)	4.00 (.83)	17.66*	1-3
Manufacturing orientation	3.44 (1.23)	4.20 (.93)	4.67 (.58)	3.88 (1.40)	3.29 (1.31)	16.19*	4-1
Distribution orientation	3.12 (1.24)	3.16 (1.49)		4.05 (1.27)	3.98 (1.02)	19.29*	5-3; 1-3
Intention	2.59 (1.25)	3.85 (1.18)	4.00 (1.73)	3.37 (1.40)	2.64 (1.28)	21.62*	5-1; 4-1
Specialization	3.00 (1.16)	3.74 (.99)	4.67 (.578)	3.68 (1.24)	3.11 (1.01)	16.45*	-
CM Strategies							
Intrusion into OEM's value chain	1.76 (1.09)	2.15 (1.23)	1.00 (.00)	2.63 (1.39)	1.95 (1.06)	11.32*	-
Secrecy	2.92 (1.02)	2.41 (1.24)	2.33 (1.53)	3.32 (1.28)	3.19 (1.09)	11.61*	1-3
Pretended OEM	3.38 (1.26)	2.76 (1.56)	1.33 (.58)	3.86 (1.54)	3.91 (1.02)	19.46*	1-3,4

Fake supplier	1.32 (.63)	1.68 (1.25)	1.00 (.00)	1.61 (1.10)	1.44 (.89)	1.58	-
Independent value-adding system	3.85 (1.05)	3.59 (1.43)	4.67 (.58)	4.20 (1.25)	3.98 (.98)	9.19	-
Filing IPRs in general	1.42 (.90)	1.65 (.95)	1.00 (.00)	1.56 (.97)	1.23 (.68)	8.38	-
Acquire technologies	1.81 (.94)	2.97 (1.45)	3.37 (2.31)	1.75 (1.27)	1.68 (.98)	21.28*	3-1; 4-1
Long-term legal competitor	1.96 (1.06)	2.81 (1.47)	4.67 (.58)	1.79 (1.23)	1.98 (1.09)	18.98*	3-1,2; 4-2
CM instruments							
Bribery	2.92 (1.18)	2.66 (1.18)	2.00 (1.00)	3.25 (1.34)	3.08 (1.15)	7.07	-
Headhunting	1.46 (.66)	2.45 (1.35)	2.67 (1.53)	2.14 (1.14)	1.83 (.96)	11.25*	5-1
Reverse engineering	2.81 (1.15)	3.91 (1.07)	4.33 (1.16)	3.19 (1.47)	2.71 (1.33)	19.25*	4-1; 5-1
IPR filing in case	1.31 (.62)	1.74 (1.00)	1.00 (.00)	1.59 (.91)	1.23 (.66)	10.71*	-
Approaching OEM's suppliers	2.12 (1.05)	2.81 (1.28)	1.67 (.58)	2.53 (1.11)	2.10 (1.17)	9.14	-
Approaching OEM's customers	3.04 (1.08)	3.91 (1.25)	4.67 (.58)	4.41 (.79)	3.64 (1.13)	30.60*	5-3,1; 4-3
Positioning as outsourcing partner	1.63 (1.10)	2.00 (1.37)	1.67 (.58)	1.70 (1.12)	1.55 (.94)	2.44	-
Industrial espionage	1.50 (.96)	2.03 (1.20)	1.00 (.00)	2.40 (1.27)	1.22 (.53)	26.72*	4-1,3; 5-3
Online distribution	3.07 (1.33)	3.29 (1.55)	2.33 (2.31)	4.49 (1.14)	4.41 (.87)	36.86*	5-3,4; 1-3,4
Parallel trade	2.17 (1.11)	2.83 (1.31)	2.00 (1.73)	2.80 (1.41)	3.05 (1.23)	8.00	-
Specific distribution	3.04 (1.25)	3.47 (1.14)	2.00 (1.00)	4.09 (1.10)	4.16 (.86)	26.38*	5-3,4
Attacking IPRs	1.38 (.81)	1.34 (.77)	1.00 (.00)	1.43 (.90)	1.10 (.49)	6.69	-
Permanent relocation	2.12 (1.09)	2.34 (1.31)	1.00 (.00)	3.65 (1.19)	2.77 (1.13)	32.55*	2-3; 5-3; 1-3; 4-3
Document analysis	3.44 (1.29)	4.15 (.91)	4.67 (.58)	3.98 (1.26)	4.14 (1.13)	8.37	-
Trade fairs	2.48 (1.34)	3.45 (1.33)	4.67 (.58)	3.27 (1.35)	3.09 (1.36)	11.71	-
Outcome variables							
Dynamic capability	2.83 (.67)	3.53 (.66)	1.50 (.25)	3.87 (.48)	3.55 (.53)	48.17*	2-1,3,4; 5-1,3,4
Success in ACM[4]	3.52 (.70)	2.55 (1.06)	4.83 (.14)	2.65 (.85)	2.98 (.69)	30.43*	1-2,5; 3-2,5; 4-5

5.1 Counterfeiting Management Configurations

"Low-quality counterfeiters," group 1 (CM C1, table 10), are engaged in counterfeiting, especially in trademark piracy, at a moderate to high level. They are able to identify opportunities and exploit counterfeits or a brand image. Therefore, they concentrate on a range of original products and rights holders. Moderate manufacturing, low assimilation, and low transformation capabilities suggest counterfeits of low quality and high output. Group 1 is unable to formulate or apply high-quality counterfeiting strategies and instruments, or to mask operations very well. Thus, they seem to aim at non-deceptive consumers, which is consistent with

a moderate distribution orientation. The frequency of strategies and instruments supports this description. For both, market-oriented elements, such as the moderate to high frequency of positioning as a pretended rights holder or online distribution, dominate. Although reverse engineering is applied regularly, it is not used for acquiring technologies but for identifying the basic components of an original product. Learning or different approaches do not seem to be important because dynamic capabilities are only low to moderate. The overall success of low-quality counterfeiters is low to moderate, as they are quite easy for rights holders to detect.

Table 10: Profile of "low-quality counterfeiters"

Clustering variables in ranked order[2]							
1. Identification	3.36 (.59)	2. Exploitation	3.30 (.51)	3. Masking capability	2.81 (.68)	4. Integration	2.68 (.63)
5. Instrumental capability	2.61 (.63)	6. Transformation	2.35 (.40)	7. Networking	2.35 (.57)	8. Strategic capability	2.15 (.60)
General descriptives/Business model							
Product piracy	3.15 (1.26)	Trademark piracy	3.46 (1.37)	Manufacturing	3.44 (1.23)	Distribution	3.12 (1.24)
Intention	2.59 (1.25)	Specialization	3.00 (1.16)				
Outcome variables							
Dynamic capability	2.83 (.67)	Success in ACM[1]	3.52 (.70)				
AC strategies TOP 4							
Pretended OEM	3.38 (1.26)	Secrecy	2.92 (1.02)	Long-term legal competitor	1.96 (1.06)	Acquire technologies	1.81 (.94)
AC instruments TOP 4							
Online distribution	3.07 (1.33)	Approaching OEM's customers	3.04 (1.08)	Specific distribution	3.04 (1.25)	Reverse engineering	2.81 (1.15)

1 = A lower number indicates higher success; 2 = Means are shown with standard deviations given in parentheses.

"Imitators," group 2 (CM C2, table 11), are counterfeiters with a strong technological and manufacturing-orientated background in product piracy. In general, they focus on a few rights holders with more technology-intensive products. The lesser importance of trademark piracy, low masking capabilities, and several moderate- to high-level manufacturing- and distribution-oriented strategies and instruments imply a profitable growth motive. Moderate- to high-quality products do not necessarily have to be completely legal. As the necessity for coverage seems to be low and the networking capabilities moderate, imitators can be part-time counterfeiters and are located away from the core markets of rights holders. They are quite successful, as patent infringements are less detectable for rights holders.

Table 11: Profile of “imitators”

Clustering variables in ranked order[2]							
1. Identification	4.00 (.44)	2. Integration	3.89 (.65)	3. Exploitation	3.70 (.58)	4. Instrumental capability	3.68 (.54)
5. Strategic capability	3.24 (.75)	6. Transformation	3.18 (.63)	7. Networking	3.10 (.85)	8. Masking capability	2.50 (.76)
General descriptives/Business model							
Product piracy	4.03 (.98)	Trademark piracy	3.09 (1.40)	Manufacturing	4.20 (.93)	Distribution	3.16 (1.49)
Intention	3.85 (1.18)	Specialization	3.74 (.99)				
Outcome variables							
Dynamic capability	3.53 (.66)	Success in ACM[1]	2.55 (1.06)				
AC strategies TOP 4							
Acquire technologies	2.97 (1.45)	Long-term legal competitor	2.81 (1.47)	Pretended OEM	2.76 (1.56)	Secrecy	2.41 (1.24)
AC instruments TOP 4							
Reverse engineering	3.91 (1.07)	Approaching OEM’s customers	3.91 (1.25)	Specific distribution	3.47 (1.14)	Online distribution	3.29 (1.55)

1 = A lower number indicates higher success; 2 = Means are shown with standard deviations given in parentheses.

“Technology-oriented contract counterfeiters as workbenches” or “contract counterfeiters,” group 3 (CM C3, table 12), are very highly engaged in manufacturing of counterfeits and seldom take part in trademark piracy. The tight focus and high specialization on a few core products suggests a workbench-oriented role.

Table 12: Profile of “contract counterfeiters”

Clustering variables in ranked order[2]							
1. Identification	4.25 (.25)	2. Integration	4.56 (.77)	3. Exploitation	3.44 (.69)	4. Transformation	3.33 (.29)
5. Strategic capability	2.33 (1.53)	6. Masking capability	2.00 (1.00)	7. Networking	1.33 (.58)	8. Instrumental capability	1.33 (.58)
General descriptives/Business model							
Product piracy	3.33 (1.53)	Trademark piracy	2.00 (1.73)	Manufacturing	4.67 (.58)	Distribution	n.r.[3]
Intention	4.00 (1.73)	Specialization	4.67 (.578)				
Outcome variables							
Dynamic capability	1.50 (.25)	Success in ACM[1]	4.83 (.14)				
AC strategies TOP 4							
Long-term legal competitor	4.67 (.58)	Acquire technologies	3.37 (2.31)	Secrecy	2.33 (1.53)	Pretended OEM	1.33 (.58)
AC instruments TOP 4							
Approaching OEM’s customers	4.67 (.58)	Reverse engineering	4.33 (1.16)	Headhunting	2.67 (1.53)	Online distribution	2.33 (2.31)

1 = A lower number indicates higher success; 2 = Means are shown with standard deviations given in parentheses; 3 = Not reported.

Type 3 counterfeiters are able to identify important industrial customers to get orders, have high technological capabilities to assimilate the relevant knowledge of rights holders, and transform that knowledge at a moderate level into counterfeits. Nevertheless, illegal counterfeiting is not the predominant business model, which is legal manufacturing. Consequently, part-time counterfeiting of legal competitors or suppliers from the same industry sector may be an issue. Counterfeits are only produced on demand and are seen as means to develop or acquire technology to improve capabilities. The strategy of approaching customers, either to acquire samples or contracts, practice reverse engineering, or even headhunt, is frequently employed to support this goal. Owing to the fact that contract counterfeiters are bad at masking their activities and are not able to develop a better counterfeiting system, their success is very limited as soon as rights holders start prosecution.

"Organized crime or counterfeiting syndicates," group 4 (CM C4, table 13), involves a system integrating organizational position or network leaders. To take advantage of a broad range of IPR infringements, these counterfeiters integrate the manufacturing and distribution of a moderate number of products from several rights holders.

Table 13: Profile of "organized counterfeiting or crime syndicates"

Clustering variables in ranked order[2]							
1. Masking capability	4.36 (.57)	2. Exploitation	4.34 (.45)	3. Identification	4.24 (.48)	4. Instrumental capability	4.18 (.49)
5. Networking	4.16 (.70)	6. Strategic capability	4.07 (.75)	7. Integration	3.74 (.59)	8. Transformation	3.10 (.67)
General descriptives/Business model							
Product piracy	3.61 (1.24)	Trademark piracy	4.09 (1.18)	Manufacturing	3.88 (1.40)	Distribution	4.05 (1.27)
Intention	3.37 (1.40)	Specialization	3.68 (1.24)				
Outcome variables							
Dynamic capability	3.87 (.48)	Success in ACM[1]	2.65 (.85)				
AC strategies TOP 4							
Pretended OEM	3.86 (1.54)	Secrecy	3.32 (1.28)	Intrusion into OEM's value chain	2.63 (1.39)	Long-term legal competitor	1.79 (1.23)
AC instruments TOP 4							
Online distribution	4.49 (1.14)	Approaching OEM's customers	4.41 (.79)	Specific Distribution	4.09 (1.10)	Permanent relocation	3.65 (1.19)

1 = A lower number indicates higher success; 2 = Means are shown with standard deviations given in parentheses.

Almost all capabilities for CM are high, especially masking and exploitation. Only transformation is moderate, which implies a lesser importance of the quality of counterfeits. From a strategic perspective, deceiving consumers and secrecy are the most important issues. Organized counterfeiting or crime syndicates also try to break into the value chain of a rights holder, and they do not intend to become legal competitors in the long run. To execute these

strategies, several different methods of distribution are applied, and permanent relocation weakens detection by anti-counterfeiters or governmental authorities. These groups are also able to reconfigure their CM systems. Thus, the success of anti-counterfeiting is below average.

For "marketers and selling agents," group 5 (CM C5, table 14), trademark piracy is highly relevant, but product counterfeits are also a part of the business model, which focuses distribution. Marketers and selling agents do not focus on specific companies, but cover a medium-sized counterfeit portfolio or assign brands to third-party products. They have to rely partially on a network to ensure the counterfeit supply and allow them to copy the respective rights holders while trying to avoid direct contact with their value chain. Online distribution and counterfeiting-specific instruments, like smuggling, play an important role in their counterfeit dissemination. Marketers and selling agents try to evade prosecution through permanent relocation and possess moderately to highly dynamic capabilities in terms of reconfiguring the CM system. Nevertheless, as group 5 acts at the forefront, with contact to consumers and other legislative systems in different countries, CM seems to have average success.

Table 14: Profile of "marketers and selling agents"

Clustering variables in ranked order[2]							
1. Identification	4.01 (.40)	2. Masking capability	3.99 (.50)	3. Exploitation	3.83 (.42)	4. Instrumental capability	3.66 (.48)
5. Strategic capability	3.30 (.63)	6. Integration	3.05 (.61)	7. Networking	3.00 (.74)	8. Transformation	2.49 (.50)
General descriptives/Business model							
Product piracy	3.31 (1.10)	Trademark piracy	4.00 (.83)	Manufacturing	3.29 (1.31)	Distribution	3.98 (1.02)
Intention	2.64 (1.28)	Specialization	3.11 (1.01)				
Outcome variables							
Dynamic capability	3.55 (.53)	Success in ACM[1]	2.98 (.69)				
AC strategies TOP 4							
Pretended OEM	3.91 (1.02)	Secrecy	3.19 (1.09)	Long-term legal competitor	1.98 (1.09)	Intrusion into OEM's value chain	1.95 (1.06)
AC instruments TOP 4							
Online distribution	4.41 (.87)	Specific distribution	4.16 (.86)	Approaching OEM's customers	3.64 (1.13)	Permanent relocation	2.77 (1.13)

1 = A lower number indicates higher success; 2 = Means are shown with standard deviations given in parentheses.

Based on the previous results, five different configurations of CM are identified. RQ 2 can be answered with the following proposition:

P 2 *Counterfeiters can be grouped into low-quality counterfeiters, imitators, contract counterfeiters, organized counterfeiting or crime syndicates, and marketers and selling agents.*

5.2 Comparison of the different configurations

The findings of the previous subsections imply the existence of five CM configurations. All identified configurations of CM represent different types of counterfeiters with clear distances between the cluster solutions (table 15).

Table 15: Distances between final CM cluster centers

Cluster	1	2	3	4	5
CM C1		2.40	2.94	3.93	2.23
CM C2			3.21	2.45	1.81
CM C3				5.12	4.00
CM C4					1.90

The business models of all groups include elements of manufacturing and distribution. Manufacturing is moderate to high among all clusters, which implies high output and necessity for more distribution-oriented types, at least for labeling, packaging, or changes of components. In contrast, transformation capabilities indicate differences between the quality standards of the identified counterfeiters. For all respondents, product and trademark piracy are relevant in all activities of CM, but with differing intensity. Counterfeiters with a focus on manufacturing or becoming long-term legal competitors heavily focus on specific rights holders and concentrate on a few original products. Among counterfeiting strategies, there are three elements that do not differ between the configurations: (1) Establishing an own value-adding system is a very frequently used strategy to create independence from the legal value chain. (2) Acting as fake supplier for rights holders is not a frequently used strategy to avoid direct contact. (3) IPR-related strategies are only seldom applied, as they involve collaboration with governmental authorities. To conduct counterfeiting, all types apply multiple instruments, as shown above. A common set of several instruments is identified, which shows no significant differences. Bribery, interaction with suppliers of rights holders, outsourcing as an instrument to acquire knowledge, parallel trade, and attacking IPRs are only used less frequently. In contrast, document analysis of rights holders' publications and trade fairs seem to be of higher importance. Distribution-oriented strategies (e.g., pretended OEM) and instruments (e.g., online distribution or specific distribution) are more frequently used by organized counterfeiting or crime syndicates as organizers than by marketers or selling agents as distributors. A stronger production orientation can be seen for low-quality counterfeiters, imitators, and contract counterfeiters, which is represented by the more frequent use of corresponding strategies (e.g., acquiring technologies) and instruments (e.g., reverse engineering). Apparently, all counterfeiters apply and vary multiple instruments owing to the high standard deviations. The results of the outcome variables differ between the groups. Imitators, organized counterfeiting or crime syndicates, and marketers and selling agents are able to reconfigure and adapt their CM system to different environmental factors, whereas the other two types clearly lag behind. This observation is in line with the success of CM. Low-quality counter-

feiters and contract counterfeiters are less successful than the other configurations. Contract counterfeiters are particularly easy victims for anti-counterfeiting, which might be because of the necessary physical production sites and low-CM capabilities. Table 16 shows country, industry, and lifecycle aspects to highlight the relevance of the different clusters.

Table 16: Countries, industries, and timing of CM configurations

Variable	CM C1	CM C2	CM C3	CM C4	CM C5
Country (counts)					
Low-income	0	0	0	1	0
Lower-middle-income	3	0	0	0	0
Upper-middle-income	19	26	0	38	34
High-income non-OECD	0	0	0	0	1
High-income OECD	6	7	3	7	10
Selected industry divisions (counts)					
Beverages	0	0	0	1	1
Tobacco products	0	0	0	3	0
Textiles	1	1	0	2	3
Apparel	0	2	0	3	0
Chemicals	0	0	0	1	2
Pharmaceuticals	2	1	0	6	3
Fabricated metal products	1	0	0	1	2
Electronic &optical products	3	0	1	8	5
Electrical equipment	7	2	0	1	2
Machinery & equipment	4	13	1	7	8
Motor vehicles	3	1	0	3	2
Other transport equipment	1	3	0	1	1
Furniture	0	2	1	1	7
Other manufacturing	1	2	0	7	2
Start of counterfeiting by product lifecycle stage (counts)					
R&D	0	1	0	2	0
Market introduction	14	15	2	26	23
Market growth	9	11	1	10	15
Market maturity	1	3	0	7	3
Market decline	0	0	0	0	0

All groups of counterfeiters are directly active mainly in upper-middle-income countries, which include frequently mentioned counterfeiting countries, like the People's Republic of China. In addition, counterfeiters sometimes act directly in the target markets of high-income OECD economies as marketers and selling agents. Successful counterfeiters mostly initiate their illegal activities at the same time as the market introduction of the original product, and rarely during market growth. All identified configurations are engaged in various industry divisions. Low-quality counterfeiters are oriented toward low-quality products that are easy to produce and distribute, like electrical equipment or parts for machinery. Imitators focus on machinery and equipment for illegal reproduction. Contract counterfeiters are equally distributed among three sectors. Organized counterfeiting or crime syndicates and marketers and selling agents are engaged in all industries, which is consistent with their role as organizers and distributors. Within-industry analysis shows meaningful differences, as sectors with

products that are hard to assess prior to purchase have high number of organized counterfeiting or crime syndicates, marketers, and selling agents and few or no imitators or low-quality counterfeiters.

For RQ 3 and P 3, the following propositions can be suggested:

P 2.1 The five configurations pursue business models that concentrate on various levels of IPR infringement, distribution, and manufacturing orientation, with relevant rights holders as targets, and appropriate product range.

P 3.1.2 Short-term success and long-term capability development can be used to contrast performance for CM. Among the identified configurations, imitators are ranked the best, followed by organized counterfeiting or crime syndicates and marketers and selling agents. Low-quality counterfeiters and contract counterfeiters have moderate to low or very low success.

P 3.1.3 CM seems to be relevant in upper-middle-income countries for counterfeit manufacturing and distribution (e.g., the People's Republic of China) and high-income OECD economies as distribution markets.

P 3.1.3 Most companies start counterfeiting during the market introduction phase, followed by market growth and market maturity. R&D and market degeneration are less important phases.

P 3.1.4 The presence of specific CM configurations differs across industry divisions.

6. Implications and conclusion

As outlined in the introduction, this study is based on three research questions to explore and enrich the knowledge about counterfeiting. The two-stage mixed-methods research approach is rooted in the concepts of configurational research of strategic groups and the resource-based view of the firm. In phase 1, the first question concerning an underlying framework to develop an understanding of CM was analyzed through a literature review and an extensive qualitative content analysis of transcripts derived from expert interviews. These results were used to develop a competence-based framework including several outcome and descriptive variables. The second research question about varieties of CM and the third question regarding performance differences were addressed in phase 2. In order to further empirically derive and explore configurations, a quantitative approach based on survey data and clustering procedures identifies five CM configurations. All groups are characterized by their capabilities and further explored by relevant strategies and instruments. The configurations are contrasted using two performance measures and are linked to country, product lifecycle orientation, and industry variables.

The present findings can confirm, complement, and question several elements of the existing approaches of Trott and Hoecht (2007) and Staake et al. (2011). This study can confirm the existence of short-term profit motives for low-quality counterfeits, especially for low-quality

counterfeiters according to Trott and Hoecht (2007). Potential collaborators with “copy and develop” capabilities and long-term orientation are represented by part-time imitators (group 2) and counterfeiting workbenches. Organized crime syndicates or CM networkers (group 4) and marketers (group 5) are a new element in this classification. With five identified CM configurations, the existence of the two basic types is considered too narrow. In Staake et al. (2011), five different configurations are identified. Low-quality counterfeiters can be considered equal to disaggregators. Marketers are identified as a second group for non-deceptive counterfeits. They somewhat resemble smugglers, as they also rely on smuggling if necessary, but the overall distribution system seems to be more complex. Thus, smugglers may be one element within the network of marketers and can have a criminal background. Desperados and fraudsters cannot be confirmed, but are considered to be potential roles a counterfeiter can assume within an illegal value chain and may also be reflected by low-quality counterfeiters or might be a part of organized crime syndicates. Imitators in the study of Staake et al. (2011) are characterized as similar in terms of learning motives, but should be differentiated into part-time counterfeiters and “true” imitators, who focus on high-price and high-quality counterfeits. Contract counterfeiters as workbenches and the identification of counterfeiters in criminal networks or as system integrators highlight the role of networking capabilities and complement the findings of Staake et al. (2011). Going beyond the scope of Trott and Hoecht (2007) and Staake et al. (2011), this study adds quantitative information about strategies, instruments, and, more important, outcome variables to assess CM performance. In particular, the role of organized crime and the strong separation of the value chain seem to be more important compared to earlier findings, as this study identifies a new cluster for organized crime.

Although the findings of this study provide in-depth information about CM, there are some limitations. Research on counterfeiting has to face the issue of indirect questioning, which can cause two problems. First, information by anti-counterfeiters as respondents may be biased. Second, counterfeiters who are able to hide their operations (especially in organized crime syndicates) are likely to be underrepresented within this study. Furthermore, the results are based on one point in time for measurement. A repeated measurement design can help to contrast time-related effects. Scale development may be questioned, as multidimensional indices with limited consistency for two subscales and single variables are combined to reflect counterfeiting competencies. The identified configurations may be limited in terms of stability, as Rand’s Index is low, but the test statistics for the five-cluster solution are good. Both limitations are neglected by anti-counterfeiting experts and have high reliability for counterfeiting competence based on Cronbach’s alpha.

Despite these possible limitations, the findings and propositions of this study are relevant for research in, management of, and policy development for (anti-)counterfeiting. Essentially, re-

search faces the challenge of insufficient information availability. A mixed-methods design can be very a promising, but time-intensive approach to explore the topic in more detail. Researchers are able to control data during the qualitative stage and can enlarge, integrate, or contrast the insights with results from quantitative approaches.

Empirical research and conceptual considerations elaborate on strategies and instruments without considering underlying capabilities and configurations. In addition, measures are not applied to contrast differences in CM performance. Therefore, this study demonstrates that companies differ in their CM capabilities. The different configurations also indicate that strategies and instruments are linked to these capabilities. Consequently, all recommendations for both counterfeiting and counter measures can be questioned if the type of counterfeiter is not considered. Consumer-oriented and environmental factors can further improve the analysis. This implies the necessity of multidimensional constructs for CM research. The configurations that exist are shown; however, the manner in which different elements interact is unclear (Fiss, 2007). With a larger number of observation points available, a hierarchical model might also help to contrast country, industry, and corporate effects further (Ketchen & Shook, 1996). Although studies about company- or industry-specific solutions provide helpful information, an overall assessment beyond best practices is needed. Afterwards, benchmarking can be applied and specific configurations and theory building can be improved.

In addition to the already-suggested propositions, rights holders should evaluate their opponents to understand possible options and limitations for anti-counterfeiting. Counterfeiters have developed from small backyard shops to companies with network structures and management competencies. They can fulfill integrated or specialized roles and differ in terms of success and capability development. Thus, an industry- and country-specific evaluation of the counterfeiting phenomenon for rights holders is recommended. From a policy-oriented view, it has to be stated that all CM configurations profit from low appropriability systems. This implies the need for supportive governmental or business association efforts, for example, in public-private partnerships. In addition, enforcement agencies should try to understand different counterfeiters to improve their support for and collaboration with private sector companies, as the involvement of organized crime and the professionalization of counterfeiting seem to increase.

In conclusion, this study is among the first to classify counterfeiters and link the configurations to outcome variables. Thus, the propositions of this study are highly explorative in nature. Although, configurational research provides insightful information and can help to improve future theory building and practical anti-counterfeiting, one element might still remain the same: “Supply will always exist, where there is demand” (Bloch, Bush, & Campbell, 1993, p. 35).

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Appendix A

Scale items for grouping, outcome, and descriptive variables

Construct	Items[1]
Grouping Variables	
CC Counterfeiting Competence, CA = .76	
CC_1 Identification, .37 - Market potential[4] - Sample acquisition[4] - Counterfeit feasibility[4] - Legal consequences[4]	- Please assess the counterfeiter's competence of identifying products with the highest market potential. - Please assess the counterfeiter's competence in acquiring original products. - Please assess the counterfeiter's competence of identifying the feasibility of the counterfeit. - Please assess the counterfeiter's competence of evaluating the legal consequences of counterfeiting activities.
CC_2 Integration, CA = .48 - Assimilation[4] - Information combination[4] - Component identification[4]	- Please assess the counterfeiter's competence of assimilating an OEM's knowledge. - Please assess the counterfeiter's competence of combining information from various sources. - Please assess the counterfeiter's competence of identifying the most important parts of the original product.
CC_3 Transformation, .76 - Technology[4] - Quality[4] - Financial resources[4]	- Please assess the counterfeiter's competence of understanding the technologies used in the original product. - Please assess the counterfeiter's competence of providing the adequate counterfeiting quality for different targeted customer segments. - How important is the counterfeiter's competence of identifying adequate investors?
CC_4 Exploitation, CA = .37 - Distribution[4] - Market know how[4]	- Please assess the counterfeiter's competence of exploiting counterfeits. - Please assess the counterfeiter's knowledge concerning the relevant market.
CC_5 Networking, CA = .88 - Network management[4] - Forming[4] - Leading[5]	- Please assess the counterfeiter's competence in network management. - Please assess the counterfeiter's competence of establishing counterfeiting networks. - How important is the counterfeiter's ability of maintaining and leading the counterfeiting network?
CC_6 Strategy[4], CA = n/a	- Please assess the counterfeiter's strategic competence.
CC_7 Instrument[4], CA = n/a	- Please assess the counterfeiter's competence of choosing the best counterfeiting instruments.
CC_8 Masking[4], CA = n/a	- Please assess the counterfeiter's capability of masking counterfeiting activities.
Outcome Variables	
SUC_Index4 Success in Anti-Counterfeiting, CA = .88	- Has the OEM been successful in stabilizing or stimulating sales due to anti-counterfeiting?

- Sales volume[5] - Counterfeit quantity[5] - Competitive advantage competitors[5] - Competitive advantage counterfeiters[5]	- Has the OEM recognized a diminishing amount of counterfeits based on anti-counterfeiting? - Has anti-counterfeiting led to a better position of the OEM compared to legal competitors? - Has the counterfeiter changed the counterfeiting direction due to anti-counterfeiting activities of the OEM?
CM_DC Dynamic Capability, CA = .81 - Adoption[5] - Internal learning[5] - Reorganization[5] - Reconfiguration[5]	- Is the counterfeiter able to customize counterfeiting instruments to changing environmental conditions? - Is the counterfeiter able to learn from a previous circumvention of protection instruments? - Is the counterfeiter able to rearrange the illicit value adding system due to environmental changes? - Is the counterfeiter able to customize counterfeiting strategies to changing environmental conditions?
Business Model	
C_Type[4], CA = n/a	To what extent are the following type(s) of counterfeiting relevant for your answers? - Product Piracy - Trademark Piracy
Counterfeiter Orientation[5], CA = n/a	Please assess the following counterfeiter orientations in your chosen chase - Manufacturing - Distribution
Counterfeiter behavior[4], CA = n/a - Intention[4] - Specialization[4]	- Please assess the counterfeiter's intention to a focused attack on the OEM. - Please assess the counterfeiter's specialization on the specific counterfeit.
Life Cycle[6], CA = n/a	- In which stage of the product life cycle did the counterfeit occur first?
Descriptive Variables	
CM Counterfeiting Management	
CM_Strategies[4], CA = n/a	Which of the following strategies did the counterfeiter use in your chosen case? - Intrusion into the licit value adding system - Secrecy in general - Positioning as pretended OEM - Positioning as supplier for the OEM - Establishment of an own value adding system - Sanction of the OEM by legal issues - Learning oriented strategy (=catching up of technological deficits) - Positioning as legal competitor
CM_Instruments[4], CA = n/a	Which of the following instruments did the counterfeiter use in your chosen case? - Bribery - Headhunting - Reverse engineering - Filing intellectual property rights - Directly approaching the suppliers of the OEM - Directly approaching the customers of the OEM - Outsourcing - Industrial espionage - Online distribution - Parallel trade - Counterfeiting specific distribution channels (e.g, smuggling) - Attacking existing intellectual property rights - Permanent relocation of production and/or distribution subsidiaries - Analysis of documents of the OEM - Trade fairs investigation

1 = Only variables for CM configurations are included; **2** = Cronbach's alpha; **3** = Original equipment manufacturer (= rights holder); **4** = anchors: 1 = "no/not at all," and 5 = "completely;" **5** = anchors: 1 = "very low," and 5 = "very high;" **6** = anchors: 1 "R&D," 2 = "market introduction," 3 = "market growth," 4 = "market maturity," 5 = "market decline."

Formale Inhalte II:

- Lebenslauf inklusive Promotionsprogramm, Publikations-verzeichnis und Lehrportfolio
- Eidesstattliche Erklärung

Eidesstattliche Versicherung

Ich versichere hiermit an Eides statt, dass ich die vorliegende kumulative Dissertation selbstständig verfasst, die Beiträge von Ko-Autoren in einer separaten Erklärung dokumentiert und keine anderen als die angegebenen Hilfsmittel benutzt habe. Die Dissertation wurde in der vorliegenden oder ähnlichen Form noch bei keiner anderen in- oder ausländischen Hochschule anlässlich eines Promotionsgesuchs oder zu anderen Prüfungszwecken eingereicht.

Sämtliche Stellen der Dissertation, die anderen Werken im Wortlaut oder dem Sinn nach entnommen sind, habe ich durch Quellenangaben kenntlich gemacht. Dies gilt auch für Zeichnungen, Skizzen, bildliche Darstellungen und dergleichen sowie für Quellen aus dem Internet.

Marburg, 1. Mai 2012

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